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THE IMPACT OF ADHERENCE TO TRADITIONAL MASCULINE ROLE NORMS
ON ANGER AND DEPRESSION

A Dissertation

Presented to

the Morgridge College of Education

University of Denver

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

by

Matthew C. Genuchi, M.A.

June 2010

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Title: The impact of adherence to traditional masculine role norms on anger and depression
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Degree Date: June 2010

Abstract

Large scale studies of the incidence and prevalence of psychological disorders have consistently shown that women meet full DSM-IV criteria for major depressive disorder at twice the rate of men (Kessler et al., 1994; Kessler et al., 2003; NCS-R, 2007; Robins & Reiger, 1991). Some have proposed (Cochran & Rabinowitz, 2000; Kilmartin, 2005; Pollack, 1998) that the current DSM-IV diagnostic criteria do not adequately reflect the depressive symptoms of some men. Men tend to use more externalizing defenses and distracting coping styles to manage negative affect, and anger is hypothesized as an externalizing symptom of a masculine variation of major depressive disorder (Magovcevic & Addis, 2008). The purpose of this study was to examine how adherence to masculine gender role norms and anger predict depressive symptoms in men. A multiple regression model was developed to examine the ability of trait anger, expressed anger, and adherence to traditional masculine role norms in predicting depressive symptoms in a sub-sample of male college students ($n = 267$). The regression model of masculine depression was found to moderately predict depressive symptoms. Trait anger also moderately predicted depressive symptoms in the male sub-sample. Although it was expected that specific masculine role norms (e.g. self-reliance and emotional restriction) would also relate to depressive symptoms, no masculine role norms were associated with

male students' endorsement of depressive symptoms. Additional clinical implications, limitations of the study, and suggestions for future research are addressed.

ACKNOWLEDGEMENTS

First and foremost, I thank my redeemer and savior, Jesus Christ. The sacrifices I made to complete this degree are insignificant when compared to the sacrifice of your life, which you gave for me. I also would like to thank my wife, who has supported me through the laughter and tears of graduate school. Meridith, this degree is as much yours as it mine, and I could not have done it without you. You have followed me across the country as I pursued my dreams, and I am forever thankful for the sacrifices you made for me – I love you.

I am grateful to my dissertation committee chair, Dr. Jesse Valdez, who has been instrumental in my development as a scientist-practitioner. I would also like to thank my dissertation committee for your diligence, support, and feedback – Dr. Stephen Shirk, Outside Chair, Dr. Patrick Sherry, committee member, and Dr. Christopher Kilmartin, committee member. Chris, I am so thankful that you have been a part of this process and that you were willing to help me from thousands of miles away. I feel privileged to enter into the field of men's studies as your colleague. I would like to express gratitude to Dr. Gary Brooks. Gary, your passion for helping men is contagious, and my journey in men's studies started with you, 10 years ago, at Baylor University

I owe a huge debt to my parents. Mom and David you challenged me to succeed, persevere, and to strive for excellence as a student and as a man. Dad, you have always encouraged me to pursue my dreams, and I know that you are proud of me. I would finally like to thank my in-laws, Randy and Stacy. Your love, encouraging words, and kindness have helped me more than you could ever imagine.

TABLE OF CONTENTS

1. Introduction

Introduction	1
Major Depressive Disorder.....	2
Early Theories of Major Depressive Disorder.....	3
Ancient Greek Conceptualization.....	3
Robert Burton	4
Emil Kraepelin.....	4
Sigmund Freud.....	5
Summary.....	6
Cognitive Theories of Major Depressive Disorder.....	7
Learned Helplessness.....	7
Cognitive Therapy.....	9
Cognitive Style Differences and Sex.....	11
Physiological Factors.....	12
Summary of Cognitive and Physiological Factors.....	13
of Major Depressive Disorder	
Explanations for the Sex Differences in Major Depressive.....	14
Disorder Diagnosis	
Description of Sex Differences.....	15
Sociocultural Influences on Differences.....	15
Masculine Depression.....	16
NIMH	17
Major Depression: Male Type.....	17
Masculine Specific Depressive Symptoms.....	18
Acting Out and Externalizing Symptoms.....	19
Anger.....	19
General Definition.....	20
State-Trait Anger Theory.....	20
Anger and Depression.....	21
Anger and Sex Issues.....	21
Summary.....	23
Traditional Masculinity Ideology.....	23
Sex Role Theory.....	24
Masculinity Ideologies.....	24
Summary.....	26
Statement of the Problem.....	27
Research Questions.....	28
Chapter Summary.....	29

2. Literature Review

Clinical Depression.....	31
DSM-IV Diagnostic System.....	31

Sex Differences in MDD Diagnostic Rates.....	33
Epidemiological Catchment Area Study.....	33
National Comorbidity Survey.....	33
National Comorbidity Survey-Replicated.....	33
Sterling County Study.....	34
Sex Differences in Symptom Presentation.....	35
Traditional Masculinity and Symptoms Presentation.....	37
Masculine Gender role Strain.....	38
Masculinity Ideology Models and Distress.....	39
Masked Depression Framework.....	45
Suicide in Men.....	49
Sex and Anger Expression.....	51
Sex and Anger Expression in Clinically and	51
Sub-Clinically Depressed Populations.....	52
Anger in Depressed Male Samples.....	53
Summary of Literature Review.....	55
 3. Methods	
Introduction.....	58
Research Design.....	58
Predictive Model and Correlation of Variables.....	59
Divergent Validity Analysis.....	59
Participants.....	59
Instruments	
Center for Epidemiological Studies.....	59
Depression Scale	
State-Trait Anger Expression Inventory-2.....	60
Male Role Norms Inventory-Revised	62
Procedure.....	65
Data Analysis.....	68
Research Question One.....	68
Research Question Two.....	68
Research Question Three.....	69
Summary.....	69
 4. Statistical Analyses and Results.....	71
Procedure.....	71
Participant Demographics.....	71
Missing Data.....	71
Sample Demographics.....	73
Male Sub-Sample.....	75
Preparation for Data Analysis.....	77
Research Question 1.....	87
Research Question 2.....	80

Research Question 3.....	82
Summary of Findings.....	82
5. Discussion and Research Implications.....	83
Introduction.....	83
Discussion of the Results and Implications.....	84
for Research	
Research Question One.....	84
Research Question Two.....	91
Research Question Three.....	92
Limitations of the Study.....	93
Recommendations for Future Research.....	96
REFERENCES.....	99
APPENDICES	
Appendix A Email Sent to Potential Participants.....	119
Appendix B Project Information Sheet.....	120
Appendix C Demographic Questionnaire.....	121
Appendix D Center for Epidemiological Studies Depression Scale.....	122
Appendix E Trait Anger Inventory.....	123
Appendix F Anger Expression Inventory.....	124
Appendix G Male Role Norms Inventory – Revised.....	126
Appendix H Statistical Analyses without Missing Removed.....	129

LIST OF TABLES

Table 1	Major Depressive Disorder – Male Type.....	17
Table 2	Masculine Specific Symptoms of MDD.....	25
Table 3	DSM-IV Diagnostic Criteria for a Major Depressive Episode.....	32
Table 4	Total Sample Demographics.....	74
Table 5	Demographics of Male Sub-sample.....	76
Table 6	Means, Standard Deviations, and Ranges for Depression, Trait Anger, Outwardly Expressed Anger, and Traditional Masculinity Ideology.....	77
Table 7	Summary of Multiple Regression Model for Variables Predicting Depression.....	79
Table 8	Correlation Matrix for Depression, Trait Anger, Anger Out, and Masculine Norms.....	79
Table 9	Means, Standard Deviations, and Ranges for MRNI-R Factors and Depression.....	80
Table 10	Correlation Coefficients for Depression and MRNI-R Subscales.....	81
Table 11	Demographics of Total Sample Without Missing Removed.....	129
Table 12	Demographics of Male Sub-sample Without Missing Removed.....	130
Table 13	Means, Standard Deviations, and Ranges for Depression, Trait Anger, Outwardly Expressed Anger, and Traditional Masculinity Ideology without Missing Removed.....	131
Table 14	Summary of Multiple Regression Model for Variables Predicting Depression without Missing Removed.....	132
Table 15	Means, Standard Deviations, and Ranges for.....	133

MRNI-R Factors and Depression without Missing
Removed

Table 16	Correlation Coefficients for Depression and.....	134
	MRNI-R Subscales without Missing Removed	

CHAPTER 1

INTRODUCTION

Introduction

Since the development of standardized diagnostic guidelines for mood disorders in the American Psychiatric Association's Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition Text Revision (DSM-IV-TR; American Psychiatric Association, 2000), a set of diagnostic criteria for major depressive disorder has guided diagnosis within both research and clinical settings. Although these diagnostic criteria are consistent regardless of an individual's sex, a well-established body of data regarding the frequency of occurrence of major depressive disorder in the United States has consistently shown that the prevalence of major depressive disorder is dramatically different between men and women. This data has shown that women are diagnosed with Major Depressive Disorder at approximately twice the rate of men (Mahalik & Rochlen, 2006).

Based on clinical experience and review of research, some have challenged the validity of this epidemiological data (Cochran & Rabinowitz, 2000; Cochran & Rabinowitz, 2003; Kilmartin, 2005; Pollack, 1998), and they have proposed that men and women are actually depressed at more equal rates. Previous explanations for this

difference in frequency of diagnosis identified being a woman as a significant risk factor for the development of a depressive disorder, although being a man was considered a protective factor. However, both scholars and clinicians have more recently entertained the possibility that being male is not necessarily protective because some men may experience depressive symptoms that are not considered a DSM-IV diagnosis (Cochran & Rabinowitz, 2000; NIMH, 2003). In fact many men may actually present with a masculine variation of depression that is influenced by dominant, American masculine gender role norms. Such masculine-specific symptoms of a depressive disorder are anger, interpersonal avoidance, substance abuse, denial of saddened affect, and masculine gender role conflict (Addis, 2008; Cochran & Rabinowitz, 2000). However, these symptoms are not considered in most clinical assessments conducted with men.

Because the conceptualization of depression has changed throughout time, the evolution of psychiatry and psychology's understanding of the symptoms of depression will be discussed. Also, the concept of a masculine depression, or that some men may present alternative depressive symptoms based on their adherence to traditional masculine gender roles, will be introduced as an additional conceptualization of depression in need of further empirical investigation.

Major Depressive Disorder

Major Depressive Disorder (MDD) is classified as a mood disorder in the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition)-Text Revision, (DSM-IV-TR) as it refers to a prolonged period of an emotional state. Mood disorders are not characterized by an individual symptom but, "a cluster of signs and symptoms sustained over a period of weeks to months that represent a marked departure from a

person's habitual functioning and tend to recur, often in a periodic or cyclical fashion” (Akiskal, 2000, p. 1285). MDD is a mental illness that is highly problematic internationally, as the World Health Organization ranked MDD fourth in a list of the most urgent health problems worldwide (Akiskal, 2000). The lifetime prevalence estimate for development of a major depressive disorder in the United States is 16.2% (Kessler et al., 2003), and over the course of a lifetime, 13% of men and 20% of women in the United States are expected to develop MDD (Harvard Medical School, 2007).

More recent epidemiological research has informed psychology that gender is a variable of significant interest in understanding MDD; however, gender was not considered a primary variable, especially in early, medical models of depression. Scientists and clinicians have perceived MDD as caused by a number of different factors, and conceptualizations of these factors have evolved since mood disorders were first studied. Several modern theories of depressive disorders focus on the impact of dysfunctional thought patterns on depressive symptoms. However, these theories do not completely account for the impact of socio-cultural factors, such as learned gender roles, on depressive symptoms, even though socially learned gender roles are a major influence on people's attitudes and behaviors. Therefore, a discussion of these theories and how they informed our understanding of depressive disorders will provide a helpful foundation for understanding how Western conceptualizations of depressive disorders have changed throughout time.

Early Theories of Depressive Disorders

The etiology of depressive disorders is generally considered complex and often due to an interaction of factors including the biological, psychological, and psychosocial.

Scientists have attempted to explain the nature of people's saddened moods for thousands of years because depression is a disorder that has been discussed in medical texts since ancient times. Early references in Greek literature refer to a depressive disorder as syndrome known as melancholia. Melancholia is a Latin term derived from Greek that described a psychological condition of prolonged fear and saddened mood (Jackson, 1986). Physiologically, the literal translation of the word was "biliousness," as the original conceptualization of the etiology of melancholia was a problem related to the humor of black bile (Wilhelm, 2006). Discussions of melancholia as a function of black bile problems are traced back to writings in Hippocrates' *Nature of Man* from the fifth century B.C. (Akiskal, 2000). Galen (131-201 A.D.) was similarly focused on the humoral etiology of melancholia, but more strongly focused on the different aspects or different temperaments associated with different locations of the problematic black bile (Jackson, 1986).

Robert Burton, in his 1621 *Anatomy of Melancholy* (Akiskal, 2000), described the symptoms of melancholia as fear, sorrow, restlessness, tiredness, and interpersonal isolation. Burton also noted that melancholia may include somatic symptoms such as gastrointestinal distress. However, change from the view of melancholia as a problem of humors, to a problem that is biochemical in nature began to take place (Jackson, 1986). Clinicians such as Richard Napier (1559-1634) noticed that they could alleviate some distress of melancholic patients by giving them opiate medication. Opiates relieved his patients' insomnia, and helped them remain generally calmer than non-medicated patients (Jackson, 1986).

Emil Kraepelin made the first major diagnostic distinction between unipolar depression (another term to describe MDD) and Bipolar Depression, which he termed manic-depressive psychosis (Cochran & Rabinowitz, 2000). Kraepelin noted a distinction between patients with sadness, anxiety, and sluggishness that was consistent with symptoms of melancholia, as well as patients with an additional syndrome that he specified “takes its course in single attacks, which either present the signs of so-called manic excitement (flight of ideas, exaltation, and overactivity), or those of a peculiar psychic depression with psychomotor inhibition, or a mixture of the two states” (Kraepelin, 1921, p. 359-361). While a discussion of Bipolar Disorder is considered beyond the scope of this paper, Kraepelin’s discovery is noted due to its significance in our understanding of depressive disorders.

Freud (1917) made further contribution to the conceptualization of depression in his paper *Grief and Mourning*. He drew parallels between the depressed mood states associated with grief or “love-object loss” and melancholia, and Freud stated that melancholia was the result of anger turned in towards the love-object that the patient had lost (Rush, 1986). However, he noted that “although mourning involves grave departures from the normal attitude to life, it never occurs to us to regard it as a pathological condition and to refer to [psychoanalytic treatment for grief-related melancholia] as medical treatment” (Freud, 1917, p. 243). This distinction between a depressive disorder with a psychosocial determinant (later to be distinguished as a reactive, exogenous, or neurotic depression) and a depressive disorder without a psychosocial determinant (later to become distinguished as endogenous, psychotic, or autonomous depression) became important in future diagnostic literature (Wilhelm, 2006). Ideas such as Freud’s,

regarding the depressive nature of grief, opened the door for discussions of psychological explanations for depressive symptoms. Other psychoanalysts, such as Sandor Rado and Otto Fenichel contributed to the psychological formulation of depression by discussing the impact of such intrapsychic symptoms as loss of self-esteem and feelings of helplessness (Jackson, 1986).

Summary of Early Theories

Physicians have reported treatment of depression since ancient civilization. Depression was initially perceived as a problem related to fluids within the body that needed treatment to relieve the sadness or loss of appetite associated with melancholia. The understanding of the biological foundation of melancholia continued as depressed people were treated with opiates for their symptoms. However, Freud and later psychodynamic theorists conceptualized some patients with depression as suffering from problematic psychological conflicts or abnormal grief reactions. These theorists stressed the understanding of the intrapsychic nature of some patient's depression and later theorists would stress the importance of the psychological components of depression. Freud addressed the relationship between depression and anger, based on his work with patients in psychoanalysis. He reported that depressive symptoms were the outcome of anger that was directed at the self. Biological and psychoanalytic explanations were the primary explanations for depressive disorders until the 1950's, and other conceptualizations have emerged with the prominence of additional theoretical movements such as the cognitive psychology movement and understanding of the importance of sociocultural factors in the development of depression.

Early theories of depression were also influential and important because they sought explanations for problematic behaviors, namely melancholia. The explanations for the etiology of depressive symptoms became more sophisticated over the course of hundreds of years. Originally, biological theories were based on the idea that depression was related to problematic bodily fluids, and psychoanalytic theories were primarily based on a model of intrapsychic conflict that involved assessment of the individual's personality and development. Gender was not a significant variable addressed in earlier research, even though theories such as Freud's were based on his work with primarily female patients. However, some later theorists would develop perspectives that would focus on the beliefs, attitudes, and values of clients and how those beliefs can be incorporated into treatment. Such theoretical models as Aaron Beck's cognitive model were initially developed for the treatment of depression.

Major Cognitive Theories of Depressive Disorders

The cognitive movement, which can be traced back to the 1950's, influenced alternative theories to psychodynamic and biological conceptualizations of the development of depressive symptoms (Schultz & Schultz, 2004). The learned helplessness model of depression is a cognitive-behavioral explanation of both the development and maintenance of depressive symptoms and contains an extensive body of empirical support (Raps, Reinhard, & Seligman, 1980). Learned helplessness is defined as a pervasive set of motivational, cognitive, and affective deficits that develop when an individual experiences negative life events. Early development of this theory occurred when Overmier & Seligman (1967) and Seligman & Maier (1967) noted that dogs exposed to inescapable shock initially attempted to escape such an aversive stimulus;

however, when shock was repeatedly administered, the dogs eventually gave up and passively accepted the shock (Seligman, Maier, & Geer, 1968). Moreover, Seligman & Meyer noticed that exposure to inescapable shock interfered with dogs' ability to escape aversive stimuli in the future, as dogs exposed to inescapable shock would not even attempt to escape future trials of severe shock. Seligman and colleagues explained this phenomenon as a process through which dogs learned that their responses were unrelated to external events. Similar to the dogs, humans that experienced inescapable noise or unsolvable problems were much less likely to escape noise or unsolvable problems in the future (Seligman & Miller, 1976).

The evidence of learned helplessness in numerous experiments with both animals and humans eventually informed a theory of the etiology and maintenance of depressive symptoms in humans. Miller & Seligman (1973) state that "depression in [the learned helplessness] model is a specific cognitive distortion of the perception of the ability of one's own responses to change in the environment" (p. 512). Eventually, in a reformulated model of learned helplessness (Abramson, Seligman, & Teasdale, 1978), attribution theory was integrated into the model to further explain individual differences in the development of learned helplessness in humans. More specifically, when individuals experience aversive and uncontrollable stimuli, they must then attribute the stimuli to a cause. One's perception of that cause will affect future thoughts and behavior. According to the reformulated learned helplessness model of depression, individuals must interpret causes in accordance with three major categories: (1) stable or unstable, (2) global or specific, and (2) internal or external (Abramson, Seligman, & Teasdale, 1978). From a practical standpoint, understanding a person's perception of the causality of

events, provides insight into potential development of depressive symptoms. For instance, causes that are attributed as internal affect self-esteem; stable causes result in longer-lasting effects; and global attributions result in feelings of powerlessness (Peterson, Von Baeyer, Abramson, Metalsky, & Seligman, 1982).

In more recent development of learned helplessness theory, investigation of individual explanatory styles has shown that that some individuals may be more prone to depressive symptoms based on the filter through which they interpret external events. People with a pessimistic explanatory style are more likely to make the internal, stable, and global attributions that place them at greater risk for developing depressive symptoms throughout their lifespan (Sweeny, Anderson, & Baily, 1986).

In summary, the learned helplessness model of depression has developed in a complex cognitive model of understanding depression in humans. Individuals who attribute the causality of events as internal, stable, and global are identified as having a pessimistic explanatory style, and understanding of explanatory style is important because, “individuals with a pessimistic explanatory style are more likely to suffer the motivational, cognitive, and emotional deficits characteristic of helplessness when confronted with a bad event” (Schulamn, Keith, & Seligman, 1993, p. 569).

An alternative to the learned helplessness model of depression is Aaron Beck’s (1967) cognitive model of depression, which emphasizes the central role of perception in the development and maintenance of MDD. Beck’s formulation of depression is a strictly cognitive model that emphasizes distorted thought processes as the pathogenic process underlying the development of MDD. Beck’s cognitive model has become a predominant and popular for conceptualizing the etiology, maintenance, as well as treatment of

depressive disorders. Aaron T. Beck was originally trained as a psychoanalyst and therefore very aware of psychodynamic models of depression such as Freud's (Derubeis, Tang, & Beck, 2001). The content of depressed patients' thought processes was particularly striking to Beck, and he abandoned the psychodynamic explanation of depressive symptoms for an explanation that emphasized the impact of thought processes on depressive disorders. Beck's cognitive model for treatment of mood disorders is relatively recent to clinical psychology; however, Beck's emphasis on functional thought processes was highly influenced by approaches of early philosophy, such as Socrates. For instance, a large emphasis of cognitive therapy is the process of guided discovery, using the technique of Socratic questioning (Beck, 1995). Central to Beck's cognitive theory of depression is how negative thinking patterns (depressogenic thoughts) influence the development of depression (Beck, Rush, Shaw, & Emery, 1979). Individuals that make negative and erroneous assumptions about the world are at higher risk for the development of depression. MDD is then maintained through the cognitive triad, which describes how depressed patients make negative interpretations about themselves, their worlds, and their futures (Beck, 1969). Continued perception of one's life in this manner results in clinical symptoms of helplessness, hopelessness, and suicidal ideation (Sharf, 2000), or hallmark symptoms of major depressive disorder.

The cognitive models of learned helplessness and cognitive therapy provide a conceptual basis for understanding the relationships between mood and cognition regardless of an individual's sex. Others have added to understanding of the relationship between thought patterns and major depressive disorder, by investigating how different *styles* of cognition may impact the development and maintenance of depressive

symptoms. This line of research has shown that a certain cognitive style is related to depressive symptoms, and that differences in cognitive styles exist between men and women.

In an attempt to study the relationship between cognition, sex, and depression, Nolen-Hoeksema (1999) found empirical support for sex differences in thought patterns, to explain some aspects of the sex difference in depressive disorder diagnoses. Differences in men's and women's cognitive vulnerability and ability to cope with depression are suggested as reasons why more women develop depression. Nolen-Hoeksema found that women are more likely to ruminate, or passively focus on their symptoms of distress, and also at a greater risk to suffer depressive symptoms based on this style of excessive worry.

Additionally, in a study of college student men and women, Butler & Nolen-Hoeksema (1994) found that women were significantly more likely to engage in rumination than men, and their ruminative style was influential in increasing the duration of their depressive episode. Nolen-Hoeksema and colleagues did not specifically investigate why men were less likely to ruminate, but they hypothesized that men ruminate less than women because men are socially reinforced to manage negative emotions through distraction versus rumination. Men's use of distraction to cope with negative affect is influenced by the ways they were reinforced and punished for emotion regulation in the past; more specifically, boys, as well as men, are likely to be negatively evaluated by others for experiencing negative emotion (Siegel & Alloy, 1990) when they receive such messages as "get over it" and "take it like a man." Although adaptive in some contexts, development of a distracting instead of a ruminative coping style is not

necessarily helpful for men (Kilmartin, 2007). Some men may become effective at distraction from depressed mood with maladaptive coping skills, such as alcohol and substance abuse (Nolen-Hoeksema, 1987; Real, 1997). Therefore, an understanding of how men often learn to manage negative affect, e.g. distraction and avoidance, provides helpful information regarding how men may manage depression. *Physiological Factors of Depression*

Current formulations of depression are not only psychological and cognitive but physiological as well. Frank, Anderson, Reynolds, Ritenour, & Kupfer (1994) report that approximately 75% of depressive disorders are elicited by a precipitating event, which suggests a strong role of psychosocial stress in the etiology of depression. However, some people that experience depressive disorders do not experience a stressful precipitating event; therefore, the influence of genetic vulnerability on depression seems to be significant as well (Kendler, Karkowski, & Prescott, 1998).

Biological foundations of depression are also now better understood across the sexes. Estrogens are known have effects on mood-related neurotransmitters, including inhibition of monoamine oxidase and decreased expression of some types of serotonin (Sommerset, Newport, Ragan, & Stowe, 2006). The impact of lowered androgen levels on depressive symptoms has been studied in aging men, as men tend to produce less testosterone as they age. Testosterone therapy for mood problems is also effective for some men that are not successfully treated with antidepressant medications (Seidman & Rabkin, 1998) because low testosterone levels can have an impact on mood in men.

Summary of Cognitive and Physiological Factors of Major Depressive Disorder

Conceptualizations of the etiology, maintenance, and treatment of MDD have come to include acceptance of both psychological and physiological factors. Psychological theories include cognitive models that focus on the understanding of the impact of depressogenic thought processes on both the development and the maintenance of depressive symptoms. Individual differences in susceptibility to the development of depressive symptoms exist because people that operate from a pessimistic explanatory style are at increased risk for developing a depressive disorder. Also, sex differences exist in cognitive style. Although women tend to use a more ruminative style, some men tend to use a distracting coping style which can result in dysfunctional means of distraction such as alcohol and substance abuse, irritability, and anger. Cognitive treatments for depression, especially Beck's cognitive therapy, provide guidelines for helping individuals experience relief from their depression, and many patients are also treated with antidepressant medication as a primary form of treatment.

Summary of Theories of Major Depressive Disorder

The fields of psychology and psychiatry have gained a great deal of knowledge about depressive disorders over the past several hundred years. This knowledge has impacted the diagnostic categorization now known as mood disorders in the widely used DSM-IV-TR. However, a diagnostic label explaining the etiology of a patient's depression, such as reactive or endogenous, was removed with the publication of the DSM-III (1980), and the use of strictly descriptive diagnostic criteria continued with the development of the DSM-IV and the DSM-IV-TR. Because psychiatry primarily focused on medically-informed research and treatment of depressive disorders, psychiatrists tended to focus on explanations from a medical and physiological perspective. Additional

explanations for both the maintenance and the etiology of depression are now offered by both psychology and psychiatry. These theories explain how a depressed person thinks, behaves, and manages unconscious conflict. Freud offered an idea as to how the management of anger, although unconscious, caused melancholia, while Beck and Seligman focused on the ways that perception and cognition influences distress. Due to modern biological research methods, an understanding of the biological foundations of depressive symptomatology is better understood; therefore, individuals are able to receive effective pharmacological treatments for the neurological components of depression. The relationship between sex and depression is complex though. Biological and cognitive differences only offer some explanation of the nature of the interactions between sex and depression.

Explanations for the Sex Difference in Major Depressive Disorder Diagnosis

Researchers investigating the occurrence of major depressive disorder in the United States have consistently demonstrated large discrepancies between the frequency of diagnosis between men and women (Cochran, 2001; Kessler, 2006). While estimates vary depending on the study reported, many studies still demonstrate this general trend (Kessler, 2006; Robins & Reiger, 1991), and the sex difference is not limited to Whites, as it exists throughout different ethnic and racial groups (Cochran, 2001; Hayward, Gotlib, Schraedley, & Litt, 1999). Therefore, the difference in diagnostic frequency between men and women is not merely limited to the ethnic majority of white Americans. Such a statistically significant difference between sexes on depressive disorder diagnoses, even across different cultural groups, is quite a concerning issue because it leads to a question of whether some men are misdiagnosed. Furthermore, the possibility exists that

the DSM-IV-TR diagnostic criteria ignores certain symptoms that are relevant to men who adhere more strongly to traditional masculine role norms, such as anger and emotional restriction (Addis, 2008; Cochran & Rabinowitz, 2000; Kilmartin, 2005; Lynch & Kilmartin, 1999; Magovcevic & Addis, 2008; Möller Leimkühler, Heller & Paulus, 2006; NIMH, 2003). Some researchers have therefore attempted to understand the reasons for the large sex difference in diagnosis of MDD.

For instance, there are legitimate reasons why women are likely to report more symptoms of depression than men. Sociologically, Morowsky & Ross (1989) propose that the chronic psychosocial stress, emotional stress, and oppression experienced by women are related to a higher prevalence of depressive symptoms in women. Women are also much more likely than men to experience a developmental trauma, such as childhood sexual abuse (Kessler, et al., 2003). Other theories, such as Nolen-Hoeksema's (1989), suggest that women are more depressed because of their tendency to use a more ruminative cognitive style because rumination is related to more severe and chronic depressive episodes.

Understanding the sociocultural and psychological factors that likely impact the prevalence of major depressive disorder in women provides some clarity to the issue of more frequent diagnoses of depression in women, but understanding cultural and psychological factors that impact men is equally important. The issue of men under-reporting depressive symptoms on self-report measures is a significant problem when attempting to understand the difference in prevalence rates between men and women. Social desirability factors may largely influence the discrepancy between men and women (Addis, 2008; Young, Fogg, Scheftner, & Keller, 1990) because men tend to

underreport symptoms of psychological distress (Addis & Mahalik, 2003). Men's underreporting of depressive symptoms is consistent with dominant, American cultural norms through which men are often reinforced for appearing stoic and strong, and punished for appearing vulnerable or distressed. Therefore, understanding that men tend to under-report symptoms illuminates a potential confound in the large "split" in diagnostic rates between men and women. Further discussion of the concept of masculine depression, or a variation of major depressive disorder influenced by masculine gender role norms, may also help clarify why the large discrepancy exists.

Masculine Depression

The concept of masculine depression has recently gained recognition through academic discussions by theorists and clinicians that specialize within the field of gender and men's studies. The concept has also gained recognition through literature published in the popular press (Real, 1997). Masculine depression was initially discussed on a conceptual level (Cochran & Rabinowitz, 2000; Lynch & Kilmartin, 1999), but the construct has also gained the attention of researchers in psychology (Mahalik & Rochlen, 2006; Magovcevic & Addis, 2008). Recently, the National Institutes of Mental Health (NIMH) funded a large educational campaign about men and depression (Rochlen, McKelley, & Pituch, 2006), *Real Men Real Depression* (RMRD). Through the Real Men Real Depression Campaign the NIMH has embraced that "while both men and women can develop the same standard symptoms of depression, they often experience depression differently and may have different ways of coping with the symptoms" (NIMH, 2003). Therefore, the NIMH, the largest scientific organization in the world dedicated to research and treatment of mental illness (NIMH, 2009), has recognized that some men

may both express and cope with depressive symptoms in a different manner than noted in the DSM-IV-TR. However, the NIMH's position on men and depression is founded on a body of conceptual and empirical literature devoted to understanding a masculine variation of MDD.

Pollack (1998) discusses the idea of a "male-type" of depression that has escaped the DSM-IV diagnostic system. Although men may report some traditional symptoms of depression, they may also report a uniquely masculine spectrum of depressive symptoms. Pollack identified *Major Depressive Disorder Male-Type* as a specific type of depression experienced by some men, in which the symptom presentation is uniquely masculine (See Table 1).

Table 1

Major Depressive Disorder – Male Type

Symptoms of Major Depressive Disorder – Male Type
<ul style="list-style-type: none"> • Increased withdrawal from relationships • Over-involvement in work activities • Denial of pain • Increasingly rigid demands for autonomy • Avoiding the help of others • Shift in sexual interest level (decrease or increase) • Increase in intensity or frequency of outbursts • New or renewed interest in psychoactive substance use • Denial of sadness or inability to cry • Harsh self-criticism • Impulsive plans to have loved ones cared for in case of patient's death • Depleted or impulsive mood • Concentration, sleep, and weight disorders

Adapted from Pollack (1998)

Cochran & Rabinowitz (2000) similarly stated that clinicians treating men in clinical settings should remain aware of *masculine-specific* symptoms that are likely to be expressed by depressed men (See Table 2).

Table 2

Masculine Specific Symptoms of MDD

Masculine Specific Symptoms of Major Depressive Disorder
<ul style="list-style-type: none"> • Gender role strain • Assertions of autonomy and interpersonal distance • Withdrawal from and decreases in social contact • Perceived threats to self-esteem and self respect • Alcohol and other drug abuse • Inability to cry • Antisocial, narcissistic, and compulsive personality traits • Decreased in sexual interest but not in sexual activity • Somatic complaints • Work-related problems and conflicts • Concentration and/or motivational problems

Adapted from Cochran & Rabinowitz (2000)

Although the symptoms described in each model of masculine depression do not completely overlap, they describe some similar symptoms that indicate a depressive experience influenced by adherence to traditional masculine gender roles. Some of the symptoms that overlap are: (1) increased withdrawal from interpersonal relationships, (2) substance abuse or dependence, (3) the inability to cry, (4) increased frequency of interpersonal conflict, (5) angry outbursts, (6) concentration problems, (7) work related problems (over work or increase in conflict at work), and (8) changes in sexual activity.

Similarly, Kilmartin (2005) describes a masculine variation of depression as an “acting out” type of depression that is generally different than the more “acting in” type (e.g. depressed mood, fatigue, lack of motivation, tearfulness) of depression described by the DSM-IV-TR. Similar to Kilmartin’s identification of many masculine-specific

symptoms as acting out symptoms, Magovcevic & Addis (2008) described masculine symptoms as *externalizing* behaviors used by some men to numb themselves from and avoid negative affect. Empirical support exists documenting men's use of externalizing defenses to cope with depressed mood (Gjede, Block, & Block, 1988; Magovcevic & Addis, 2008; Levit, 1991), and this data is consistent with the idea that men attempt to distract/externalize when experiencing depressed mood. A specific externalizing symptom of masculine depression that will be further discussed is anger.

Anger

A construct proposed as a key component of masculine depression is anger (Cochran & Rabinowitz, 2000; Pollack, 1998; Kilmartin, 2005; Kilmartin & Lynch, 1997). Kassino & Sukhodolsky (1995) describe anger as a:

“constellation of specific uncomfortable subjective experiences and associated cognitions... that have various associated verbal, facial, bodily, and autonomic reactions. It is a transient state, in that it eventually passes, and it is a social role in that our culture or subculture allows for the display of certain types of behaviors associated with the internal experience, but punishes others” (p.11).

Therefore, anger is a complex experience because both the emotional experience of anger and how that experience of anger is expressed are important components (Spielberger, 1995). Spielberger et al. (2004) differentiated between two aspects of a person's emotional experience of anger: State Anger and Trait Anger. State Anger (Spielberger, 1983) is the intensity of anger a person feels at a particular time, and Trait anger refers to a person's general proneness to anger throughout time and situation. An individual's anger is additionally understood through identification of that person's

manner of anger expression, or style of expressing anger after experiencing an anger-provoking stimulus (Speilberger, 2004). Expression of angry feelings can involve outwardly aggressive behaviors (anger out), the inhibition or suppression of anger (anger in), or the attempt to control (anger control) the expression of angry feelings (Speilberger, 2004). The experience of anger and the expression of anger are highly associated concepts because the emotional arousal of anger must be experienced before that anger can be expressed (Speilberger et al., 2004). The State-Trait and Expression theory of anger is a generally comprehensive (cognitive, behavioral, and emotional) manner of conceptualizing anger and the theory has developed a strong foundation of empirical support (Eckardt, Norlander, & Deffenbacher, 2004).

Anger and Depression

A significant amount of literature has demonstrated positive relationships between anger and symptoms of MDD. Moreno, Fuhrman, & Selby (1993) found that overall, participant's scores on all measures of depression significantly increased as their levels of anger increased. Using a more complex model of anger and depression than Moreno et al., Clay, Anderson, & Dixon (1993) found that increases in inwardly expressed anger (i.e. suppressed anger) significantly related to increased scores on measures of depressive symptoms. Clay, Anderson, and Dixon also found that participants who expressed anger externally towards other people or objects, or attempted to control their angry feelings did not experience increased levels of depression. However, an important factor not discussed by these studies is sex, and how sex may relate to the experience or expression of anger. Therefore, others have attempted to further understand how anger, depression, and sex relate to and influence each other.

Theorists have conceptualized anger as socially reinforced in different ways based on an individual's sex. Through the process of social learning, women are often discouraged from experiencing and expressing anger because anger is generally perceived as a masculine emotion. Interestingly though, anger is the only emotion that many American women are discouraged from expressing (Sharkin, 1993), and some have hypothesized that the development of depressive symptoms in women is indicative of women's difficulty expressing anger (Kring & Gordon, 1998); however, empirical support for this idea of unexpressed anger as a precipitant of depression is limited and unclear. Cox, Stabb, and Hulgus (2000) investigated whether anger expressed inwardly was a significant predictor of depression in adolescents of both sexes. Girls were more likely than boys to suppress their anger; however, girls were not more depressed as a group. Therefore they cast doubt on the theory that because women suppress their anger, they are more likely than men to develop depressive symptoms.

Newman, Gray, and Fuqua (1999) also found that depressed women were significantly more likely than men to express anger inwards, and in a follow-up study Newman, et al. (2006) found that state, trait, and expressed anger were all highly significant predictors of depression in both men and women. However, neither anger expressed inwardly or outwardly were better predictors of depression in either sex. Therefore, although women were shown to express anger differently than men, certain anger expression styles were not shown to more accurately predict depressive symptoms when sex was used as a grouping variable. Therefore, biological sex may not be most helpful grouping variable when attempting to understand anger expression styles of men.

Kopper & Emerson (1991) conducted a slightly different study in which both sex and *gender role orientation* (described by the authors as distinguishing between masculine and feminine traits) were investigated as predictors of anger. Interestingly, endorsement of masculine gender roles was positively and significantly related to a physical, acting out type of anger. Kopper and Emmerson's investigation provided a different model for understanding anger expression by measuring participants' adherence to gender roles. Their model is notable because use of biological sex as a variable groups all male participants into one homogenous group, when in fact a group of men may endorse adherence to a range of gender roles. Therefore, their study demonstrated that sex, or simply being male, is not enough to influence men to express anger outwardly, but that adherence to more stereotypically masculine norms is a more meaningful way of understanding how men express anger.

In summary, Although Newman, et al. (2006, 1999) address overall relationships between anger scores, depression, and sex, the study of differences between men and women does not allow for investigation of the rich variability in gender roles within groups of either men or women. For instance, some men adhere to more stereotypically masculine roles, while others adhere to more stereotypically feminine gender roles. Grouping these men together in one male group negates the diversity of gender roles that exists amongst men. Kopper & Emerson were able to tap in to this diversity when they demonstrated that endorsement of masculine norms, versus being biologically male, predicted outwardly expressed anger. Because some diversity of gender roles is expected in a group of men, use of masculinity (or adherence to masculine role norms) as a variable likely provides a more meaningful way of studying anger in men.

Traditional Masculinity Ideology

Although modern psychiatry has brought the biological components of depressive disorders to the forefront, psychology has provided direction in understanding how culture and socialized gender roles impact depressive disorders. The concept of *gender* is fundamentally different than *sex*, which is an individual's biologically based sexual characteristics such as genetic structure (e.g. whether an individual has XY or XX chromosomes) and genitalia. Gender is not biologically determined and is rather a psychologically and culturally influenced construct. The importance of the impact of gender on a variety of aspects of mental health was brought to light by Bem's (1977) discussion of psychological androgyny, or that individuals could possess masculine and feminine traits at the same time. While helpful in the assessment of masculine and feminine characteristics, the measure associated with Bem's and other similar theories (Spence & Helmreich, 1978) assign the individual a masculinity or femininity score that is indicative of an individual's masculine and feminine personality attributes (Smiler, 2004).

Although Bem's theory was helpful in moving psychology from sex-related theory, others eventually developed more complex conceptualizations of masculinity. David & Brannon (1976) discussed masculinity as consisting of four principles that men must adhere to (such as "no sissy stuff" and "give em' hell"), and that these principles highly influence men's behaviors. Furthermore, Brannon discussed masculinity as a belief system that stemmed from social learning instead of inherent personality attributes. Brannon reported that masculinity is developed as boys and men learn what they should and should not do, think, and feel (Smiler, 2004). Therefore, masculinity was no longer

conceptualized as an inherent personality trait but a socially constructed *ideology* or belief system that individuals do or do not endorse (Thompson & Pleck, 1995).

An understanding masculinity as an ideology provides a framework for understanding the social influences on gendered behaviors. Mahalik et al. (2003) discuss masculinity ideology in similar terms. Individuals learn masculine gender role norms from their dominant culture, and these norms are “rules and standards that guide and constrain masculine...behavior” (p. 3). Men must choose whether or not to adhere to dominant cultural norms regarding masculine behaviors.

While masculinity ideology refers to a belief system of how men should think, feel, and behave, there is not a single masculinity ideology for all men. In fact there are a number of masculinity ideologies that impact men’s thoughts and behaviors (Smiler, 2004; Kilmartin, 2005; Thompson & Pleck, 1995), and these ideologies are dependent upon such influences as culture, geography, and religion. Traditional masculinity ideology in the United States is reflective of traditional masculine roles in Western society (Levant et al., 2007) and the masculine role norms that are predominantly upheld by the dominant culture (Mahalik, 2003). The dominant culture in the United States is primarily White, heterosexual, Christian, and male.

Mahalik et al. (2003) described the dominant masculinity ideology in the United States as consisting of 11 masculine role norms: (1) dominance, (2) emotional control, (3) disdain for homosexuals, (4) playboy, (5) power over women, (6) risk-taking, (7) self-reliance, (8) pursuit of status, (9) violence, (10) winning, and (11) primacy of work. Importantly, conformity to some masculine norms is related to certain types of psychological distress (Good et al., 1996; Good et al., 1994; Mahalik et al., 2003) such as

hostile aggressive behaviors (Mahalik et al., 2003), and maladaptive coping patterns of managing depressive symptoms (Mahalik & Rochlen, 2006).

Although Mahalik et al. (2003) do not specifically identify their model as a model of traditional masculinity ideology, Levant et al. (2007) explicitly describe their empirically derived model of masculine role norms as a model of traditional masculinity ideology. They describe traditional masculinity as consisting of seven distinct masculine role norms: (1) avoidance of femininity, (2) fear and hatred of homosexuals, (3) extreme self-reliance, (4) aggression, (5) dominance, (6) non-relational sexuality, and (7) restrictive emotionality. The generalizability of Levant et al.'s model of traditional masculinity ideology has been demonstrated through investigation that shows a variety of male groups endorsing adherence to traditional masculine role norms. For instance, African American men endorse more traditional masculine role norms than European American men, and male students significantly endorse more traditional roles than female students (Levant & Majors, 1997). Interestingly, groups from outside the United States, such as Chinese and Russian college students, endorse even more traditional masculine roles than American college students (Levant, Wu, & Fischer, 1996). Therefore, Levant et al.'s model of masculinity ideology has demonstrated some external validity to male groups from outside the United States. Similar to Mahalik et al.'s investigation of the relationship between masculine role norms and distress, endorsement of Levant et al.'s traditional masculinity ideology is related to psychological concerns such as dysfunction in emotional expression (Levant et al., 2003; Levant et al., 2006), history of relationship violence (Jacupcak, Lisak, & Roemer, 2002), and negative attitudes toward help-seeking (Berger, Levant, McMillan, Kelleher, & Sellers, 2005).

Summary of Traditional Masculinity Ideology

Conceptualization of masculinity as a socially constructed belief system has provided a great deal of insight into why many men think, behave, and express emotions in certain ways. Traditional masculinity ideology consists of the belief system of the dominant, male culture and consists of such normative values as avoidance of femininity, dominance, aggression, and restrictive emotionality. Higher endorsement of traditional masculinity ideology has been related to several types of psychological distress, including depression, hostility, and problems with emotional expression.

Statement of the Problem

The empirical investigation of masculine depression is important because of the potential public health implications of further understanding depression in men. If some men do experience depression differently than DSM-IV-TR criteria, at this time, it is likely that they are misdiagnosed and perhaps untreated. The most convincing evidence for the under-diagnosis of MDD in men is the alarmingly high suicide rate amongst men in the United States. Although men are diagnosed with MDD much less often than women, men account for 78% of suicides in the US, and suicide is the eighth leading cause of death for men (CDC, 2009). Therefore, a more accurate picture of the symptoms of masculine depression is expected to assist clinicians in more accurate diagnosis and treatment of MDD in men and hopefully have an impact on the suicide rate of American men.

This study was developed to investigate specific symptoms of masculine depression. The relationships between adherence to traditional masculine gender role norms, trait anger, outwardly expressed anger, and depressive symptoms in men. Because

anger is hypothesized as a component of masculine depression, the relationship between depression and two anger-related constructs will be investigated, trait anger and outwardly expressed anger. Measurement of trait anger will provide information about anger experienced over time, which is consistent with the longer duration of depressive disorder symptoms. Assessment of outwardly expressed anger will allow for testing of the hypothesis that some depressed men will externally express their anger. Male participants who report adherence to traditional masculine gender role norms and more depressive symptoms are expected to endorse higher levels of trait anger, as well as outwardly expressed anger. Anger and adherence to traditional masculine gender roles are expected to predict endorsement of depressive symptoms in men.

Research Questions

1. Do male participants' endorsement of traditional masculine gender role norms, trait anger, and outwardly expressed anger significantly predict their endorsement of depressive symptoms?
2. Which masculine role norms (avoidance of femininity, fear and hatred of homosexuals, self-reliance, aggression, achievement/status, non-relational attitudes toward sexuality, and restrictive emotionality) are significantly related to depressive symptoms in male participants? Are these relationships consistent with previous research on conformity to masculine role norms and depression in men?
3. For purposes of divergent validity in this study, do sex differences exist on overall scores of traditional masculinity ideology?

Summary

Research regarding the frequency of MDD in the United States has consistently demonstrated that women are diagnosed with MDD at least twice as often as men. Investigators have searched for explanations of these sex differences. Some evidence has shown that women tend to use a more ruminative cognitive style than men, and this ruminative style increases the severity and duration of depressive episodes. Men endorse a distracting coping style when experiencing depressed mood, and this distracting style may be associated with more externalizing behaviors such as substance abuse and expression of anger. Researchers that looked at the relationship between anger and depression have found that anger is related to depressive symptoms in both men and women, but women are more likely to suppress their angry emotions. Alternatively, being male is not associated with an anger expression style, but endorsing masculine gender roles is related to outwardly expressing anger. This empirical data is consistent with theory that men who are reinforced for more aggressive and violent behaviors learn to express anger in an outwardly aggressive manner.

However, most studies of the relationships between anger, depressive symptoms, and men categorize men into a single, homogenous group. Although the results of these studies are helpful in understanding group differences between men and women, they are less helpful in furthering understanding of gender role variability that exists amongst men. More importantly, a generalized grouping of men may not provide meaningful data regarding certain types of men (e.g. those that conform more/less to dominant masculine

role norms) that may be more likely to present with a masculine variation of MDD. Studying which men are more likely to experience a masculine form of depressive symptoms will provide insight into which individuals are at increased risk for development of a masculine depressive disorder.

CHAPTER TWO

Literature Review

One of the most commonly used diagnostic systems for psychiatric disorders is the DSM-IV-TR, which is produced by the American Psychiatric Association. The DSM criteria for diagnosis of a disorder are descriptive in nature, and some investigations have shown that men and women report different types of depressive symptoms (Hammen & Padesky, 1977; Khan, Gardner, Prescott, & Kendler, 2002). Understanding that some sex differences exist in reporting of depressive symptoms has helped researchers better understand the relationships between sex and major depressive disorder. Nevertheless, investigating differences in depressive symptoms between men and women is a limited means of investigating if some men have a masculine variation of major depressive disorder. For instance, assessment of anger and irritability is not included in investigations of sex differences in depressive disorders because anger is not currently conceptualized as a depressive symptom. Regardless, several types of anger are shown to be consistently related to depressive symptoms in both men and women. Further understanding of the relationships between gender, anger and depression is warranted because current literature is limited and inconsistent in the demonstration of sex differences in the presentation anger.

Current DSM-IV-TR Symptoms of MDD

One of the most commonly used descriptions of depressive disorder symptoms is contained in the DSM-IV-TR. The DSM-IV-TR includes diagnostic guidelines for a number of psychological disorders, and while accepted internationally, it is most commonly used in the United States. Previous editions of the DSM used diagnostic systems that included assessment of the etiology of depressive disorders, but DSM-IV-TR diagnostic criteria include only symptoms that are simply descriptive in nature. Therefore a person is diagnosed with a depressive disorder based on their current symptom presentation, not on how their symptoms developed over time (Jackson, 1986). The categorization of mood disorders is relatively recent, as mood disorders were classified as “affective disorders” in several previous editions of the DSM, until publication of the DSM-III-R (1987). Currently, in the DSM-IV-TR, a person meets diagnostic criteria for a major depressive disorder when they are currently experiencing: for the same two week period and represent a change from previous functioning: 1) depressed mood, or 2) loss of interest or pleasure, in addition to five or more criterion symptoms (See Table 3).

Table 3

DSM-IV-TR Depressive Symptoms

DSM-IV-TR Diagnostic Criteria for a Major Depressive Episode
Five or more of the following symptoms have been present during the same two week period and represent a change from previous functioning; at least one of the symptoms is either depressed mood or loss of interest or pleasure.
1. Depressed mood most of the day or every day
2. Markedly diminished interest or pleasure in al/almost all activities
3. Significant weight loss or decrease/increase in appetite
4. Insomnia or hypersomnia almost every day.
5. Psychomotor agitation or retardation nearly every day

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6. Fatigue
 7. Excessive feelings of worthlessness or inappropriate feelings of guilt.
 8. Diminished ability to think or concentrate, indecisiveness, nearly every day
 9. Recurrent thoughts of death, suicidal ideation without a specific plan, planning to commit suicide, specific suicide attempt
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Adapted from DSM-IV-TR (2000)

Overall Sex Differences in MDD Diagnostic Rates

With DSM criteria as their guidelines, several large-scale studies in the United States have demonstrated large differences between men and women in prevalence rates of MDD. Results from the Epidemiological Catchment Area Study (Robins & Reiger, 1991) identified significant differences in incidence and prevalence of MDD between men and women. The sample consisted of approximately 20,000 people from five different survey sites in the United States. Diagnostic criteria included an initial report of depressed mood or anhedonia, plus endorsement of four criterion symptoms (e.g. loss of energy, concentration problems). Study results showed that in the large sample surveyed, lifetime prevalence for major depressive disorder in men was 2.6% and in women was 7% (Weissman, Bruce, Leaf, Florio, and Holzer, 1991). This gender difference was not limited to white, American participants, as it was consistent between groups of both African American and White participants (Weissman, et al., 1991).

Similar results were published in the National Comorbidity Survey (NCS; Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993), which was the first nationally representative mental health survey in the United States to use a fully structured interview to investigate incidence and prevalence rates of DSM-III-R psychological disorders. Reported in the NCS were lifetime prevalence estimates for both men and women, and the lifetime prevalence estimates between sexes was still large at 12.7% for

men and 21.3% for women (Kessler et al., 1993). To provide updated information regarding the occurrence of mental illness in the United States, another NCS study was conducted, the National Comorbidity Study-Replicated (NCS-R, 2007). In the NCS-R 10,000 participants were interviewed in the United States regarding a variety of psychological disorders. The lifetime prevalence estimate of MDD for men was 13.2% and for women was 20.2%. The NCS-R data showed that the difference in lifetime prevalence rates between men and women had slightly decreased since the 1992 NCS study, but a large difference in diagnostic rates between men and women remained.

However, not all studies examining the occurrence of MDD in the US population have reported such differences. Murphy, Oliver, Monson, Sobol, and Leighton (1988) examined follow-up data from the Sterling County Study, in which cross-sectional and longitudinal data were gathered from approximately 2,000 participants between 1952 and 1970. The structured diagnostic criteria used by Murphy et al. included, positive evidence of dysphoric mood, as well as positive evidence of disturbance in each of three characteristically associated spheres of impairment (sleep problems, appetite change, and energy loss). The subject had to also demonstrate functional impairment, in addition to symptoms, to fit criteria for the classification of MDD. After gathering data, they conducted estimates of prevalence of several psychiatric disorders, based on data gathered in 1968. In contrast to other large studies, equal prevalence and incidence estimates were reported for both men and women. Of note though was a significant sex difference in mortality risk associated with depression, as men were estimated at twice the risk of depression-related mortality than women (Murphy et al., 1988). Therefore,

even though men may report fewer depressive symptoms than women, the consequences of MDD may actually be more lethal for men.

Sex Differences in Depressive Symptom Presentation

Consistent demonstration of a significant sex difference in MDD diagnostic rates between men and women influenced further investigation of potential differences in depressive symptoms reported by each sex. The investigation of differences in MDD symptoms reported by men and women has provided variable results regarding overall sex differences in symptom endorsement (Addis, 2008). For instance, Vredenburg, Krames, and Flett (1986) investigated if depressed (BDI score of 15 or higher) men and women experienced certain sex-specific symptoms of depression. Vredenburg, et al. theorized that participants each sex would express depression differently due to different ways men and women are socially reinforced. Their results showed that, on the BDI, men endorsed (more frequently than women): lack of satisfaction, suicidal ideation and plans, work inhibition, somatic preoccupation, and indirectiveness. Women were more likely than men to endorse symptoms of self-dislike, crying, body image distortion, and irritability.

In their investigation of sex differences in depressive symptoms, Hammen and Padesky (1977) found no significant differences between mean (mean BDI score for women = 19.91, mean BDI score for men = 19.01) severity levels of clinically depressed men and women, yet they found different overall patterns of depressive symptoms endorsed by each sex. Depressed men tended to report an inability to cry, loss of interpersonal interest, withdrawal, feelings of failure, and somatic symptoms. In a later study using a large sample of college students, Padesky and Hammen (1981) found no

sex differences in severity levels of depressive symptoms on the Minnesota Multiphasic Personality Inventory (MMPI) depression scale. Certain sex-specific patterns of depressive symptoms were endorsed though. Women reported crying easily, lack of confidence, self-deprecation, and sensitivity to criticism. Men were more likely to report a pattern of somatic symptoms, not crying easily, concentration and memory problems, and social withdrawal.

Frank, Carpenter, and Kupfer (1988) administered a number of self-report and interview-based assessments to examine symptoms between groups of men and women diagnosed with recurrent MDD. No sex differences in symptoms appeared on the structured interview assessments, but different patterns of symptoms endorsement existed between men and women on the self-report measures. Women reported significantly more total symptoms than men including somaticization, depressed mood, obsessive-compulsivity, and anxiety. Interestingly, in this sample, women scored significantly higher than men on measures of expressed anger and hostility. This finding of depressed women reporting higher levels of expressed anger is inconsistent with the idea that depressed men will demonstrate more overt anger than women (Frank et al., 1988).

In one additional study of sex differences in symptom presentation, Oliver and Toner (1990) found that depressed (BDI cutoff of 10) men and women college students did not differ on total scores of the BDI. However, they differed on their endorsement of certain symptom groups. Men endorsed more somatically-oriented symptoms such as problems sleeping and decreased sexual drive, more social withdrawal, and higher levels of overall life dissatisfaction. Women were more likely to report crying, feelings of punishment, and symptoms related to somatic preoccupation. Oliver and Toner also

added an additional variable to their investigation, which was not included in previous studies of sex differences in depressive symptom presentation.

Participants were administered the Bem Sex Role Inventory (BSRI; Bem, 1974) to assess differences between masculine and feminine subgroups' endorsement of depressive symptoms. Interestingly, Oliver and Toner found that masculine and feminine women did not differ on overall BDI scores, as well as masculine and feminine groups of men. However, more feminine individuals of both sexes, were more likely to endorse "self-deprecating and emotional symptoms," while more masculine individuals of both sexes demonstrated more symptoms of "withdrawal and listlessness" (p. 788). Although Oliver and Toner did not report results that were strikingly different than those that investigated sex differences in previous studies, their hypothesis that sex differences may exist based on adherence to certain gender roles was a novel idea that uniquely contributed to literature on sex and depression.

Traditional Masculinity and Symptom Presentation

Because investigation of sex differences in depressive symptom presentation has historically resulted in inconsistent results, the use of a sex-differences framework to understand a masculine variation of MDD is not particularly helpful. Because a large proportion of investigation of sex and depression involves strictly looking at sex differences, Oliver and Toner's (1990) investigation of the differences in symptom presentation by gender (i.e. masculine and feminine), instead of biological sex (male and female) provides an additional way of understanding depression - how gender role socialization impacts depressive symptom expression. Their results suggest that gender is

an important variable in understanding why men are diagnosed with MDD at such dramatically lower rates than women.

Masculine Gender Role Strain. Oliver and Toner measured masculinity with the Bem Sex Role Inventory (BSRI; Bem, 1974), which measures both masculine and feminine traits. Bem (1981) conceptualized gender as consisting of personality traits or dispositions (Thompson & Pleck, 1995), which suggests that Bem viewed masculinity as a series of traits that are consistent within an individual throughout time and situation. Although her conceptualization of gender was important in distinguishing between masculinity and being male, other theoretical models of masculinity were later developed, including models that describe gender as a socially constructed phenomenon.

Social constructionism has highly informed more recent approaches to the understanding of masculinity, specifically approaches that define masculinity as a belief system (Brooks & Good, 2001; Smiler, 2004). According to constructivist theory, masculinity is a socially constructed belief system or *ideology* because individuals must choose whether or not to endorse the normative beliefs and values associated with masculinity (Thompson & Pleck, 1995). Masculinity ideologies are highly comprehensive and influential because they describe how boys and men should think, behave, and feel (Smiler, 2004). According to the gender role strain model (Pleck, 1995), adherence to traditional, restrictive masculine gender role norms creates psychological distress because men attempt to meet unattainable and even contradictory standards for masculine behavior. The resulting masculine gender role strain associated with traditional masculinity places men at risk for emotional problems, such as depression. Influenced by the constructivist gender role strain theory of masculinity, a significant amount of

research has furthered masculine gender role strain theory by providing operationally defined models of traditional masculinity ideology (Levant & Fischer, 1998; Levant, et al., 2007; Mahalik, et al., 2003; Pleck, Sonenstein, & Ku, 1993), as well as investigating the relationship between traditional masculinity and types of psychological distress.

Conformity to Masculine Norms and Distress. In a recently developed model of traditional masculinity, Mahalik et al. (2003) investigated the relationship between masculine role norms and various types of psychological distress. They developed a theoretically-derived model of traditional masculinity that consisted of 11 masculine role norms reflective of the dominant culture within the United States: (1) Winning, (2) Emotional Control, (3) Risk-Taking, (4) Violence, (5) Dominance, (6) Playboy, (7) Self-Reliance, (8) Primacy of Work, (9) Power Over Women, (10) Disdain of Homosexuals, and (11) Pursuit of Status. Mahalik et al. (2003) demonstrated that overall conformity to dominant masculine norms, as well as conformity to several specific masculine norms were related men's endorsement of psychological distress.

Regarding individual norms, men who endorsed higher levels of conformity to the masculine norms of violence, dominance, and power over women were shown to endorse higher levels of general psychological distress. Symptoms of anxiety were related to endorsement of dominance, self-reliance, and primacy of work. Hostility was positively related to the norms of winning, violence, power over women, dominance, playboy, and self-reliance. Men's endorsement of depressive symptoms was related to conformity to the norm of self-reliance. Interestingly, while a number of masculine norms were significantly associated with various types of psychological distress, conformity to only a single norm, self-reliance, was predictive of depressive symptoms. Therefore, the results

from Mahalik et al.'s study are consistent with the masculine gender role strain paradigm, as they suggest that overall adherence to traditional masculine norms is associated with elevated distress levels and that adherence to self-reliance is related to depressive symptoms. The study results also perhaps suggests that men that do not conform to certain norms of traditional masculinity ideology may be less susceptible to developing depressive symptoms.

Masculine Norms and Externalizing Symptoms. In a study specifically investigating masculine norms and depressive symptoms, Mahalik and Rochlen (2006) asked men to complete the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003), read a paragraph that described symptoms of a major depressive episode, and then indicate how they would cope with experiencing a depressive episode from a list of 20 behavioral coping choices. Examples of coping responses included, “talk to a physician about the problem;” “talk to a family member;” “have a few drinks;” and “throw yourself into work” (p. 661). Men that described more conformity to the masculine norms of violence, power over women, dominance, playboy, disdain for homosexuals, and pursuit of status were more likely to engage in less adaptive coping skills such as “have a few drinks,” and they were less likely to endorse needing to speak with partners about their mood problems or contact a mental health professional. Men who conformed to the norm of controlling emotions, were also much less likely to speak with a spouse and more likely to engage in alcohol use to manage depressive symptoms. Although the study was focused on how men cope with depression, these results are consistent with theories that describe masculine depression as consisting of externalizing

or acting out-type symptoms such as substance abuse and interpersonal withdrawal (Addis & Magovcevic, 2008; Cochran & Rabinowitz, 2000; Kilmartin, 2005) .

While Mahalik and Rochlen found that higher conformity to masculine norms was generally associated with less adaptive coping skills, men who conformed less strongly to such traditional masculine norms as violence, power over women, disdain for homosexuals, pursuit of status, and power over women were more likely to engage in help-seeking behaviors, such as reaching out to their partners, and they were less likely to manage symptoms with alcohol abuse. Interestingly, in this study conformity to traditional masculine norms was not exclusively associated with maladaptive coping skills to manage depressive symptoms. Those men who reported higher conformity to the norm of winning were actually more likely to use such adaptive coping skills as exercising to manage depressive symptoms. Therefore, although Mahalik and Rochlen demonstrated that traditional masculine norms were mostly associated with engaging in maladaptive coping skills, some men who strongly believe in winning may actually have some degree of protection from experiencing depression.

Male Role Norms and Distress. Similar to Mahalik's model of traditional masculinity, Levant and Fischer's (1998) model of traditional masculinity ideology is associated with various types of psychological distress. They describe traditional masculinity ideology as reflective of the dominant culture (Western, white, heterosexual) in the United States, and that masculinity "informs expectations for boys and men to conform to certain socially sanctioned masculine behaviors and to avoid certain prescribed behaviors" (Levant et al., 2007, p. 131). According to Levant and Fischer, traditional masculine norms in Western cultures can be categorized into seven primary

norms: (1) Avoidance of femininity, (2) fear and hatred of homosexuals, (3) self-reliance, (4) aggression, (5) achievement/status, (6) non-relational attitudes toward sexuality, and (7) restrictive emotionality (Levant & Fischer, 1998; Levant, Hirsch, Celentano, et al., 1992). The Male Role Norms Inventory (MRNI; Levant & Fischer, 1998; Levant, et al., 1992) was developed to operationally define and measure traditional masculinity ideology, and Levant et al. (2007) recently developed a revised and updated version with new normative samples, the Male Role Norms Inventory-Revised (MRNI-R). The MRNI and its updated revision, the MRNI-R, have allowed for further investigation of the relationships between traditional masculinity ideology and various psychological problems.

Good and Mintz (2000) showed that depressive symptoms are related to men's adherence to traditional norms, including restricted emotional express, restricted affectionate behavior between men, and men's belief in the importance of sex power and competition. Also, Good and Mintz note that traditional men are at "compounded risk" (p. 20) because not only are they at risk for depressive symptoms, but they are also much less likely to seek help for those symptoms (Good, Dell, & Mintz, 1989). Traditional masculinity ideology is related to other psychological problems such as alexithymia (Berger, et al., 2005) and men's negative attitudes toward help seeking behaviors. Men who endorse higher conformity to traditional masculine norms also tend to avoid expressing vulnerable emotions and express anger in a hostile manner (Jacupcak, Tull, & Roemer, 2005)

Masculine Gender Role Conflict and Psychological Distress. One of the largest clinically-focused research programs in men's studies is the masculine gender role

conflict research program. Consistent with the masculine gender role strain paradigm, masculine gender role conflict (MGRC) theory includes an assumption that negative psychological consequences occur when men adhere to restrictive, traditional masculine gender role norms (O'Neil, 1981). Traditional masculine role norms are restrictive because they do not allow men to fully express themselves emotionally, behaviorally, and interpersonally. To further study MGRC and its relationships to various psychological constructs, a measure of MGRC was developed, the Gender Role Conflict Scale (GRCS; O'Neil, Helms, Gable, David, & Wrightsman, 1986). The GRCS measures men's overall distress associated with adherence to restrictive masculine role norms, as well as men's distress in several specific domains, including (1) Restrictive Emotionality; (2) Restricted Affectionate Behavior Between Men; (3) Success, Power, and Competition; and (4) Conflict Between Work and Family (O'Neil et al., 1986; O'Neil, 1995). Significant empirical evidence supports masculine gender role conflict theory's assumption that traditional masculinity is associated with negative psychological consequences. Several studies have confirmed the relationship between masculine gender role conflict and overall psychological distress (Blazina & Watkins, 2000; Good et al., 1995; Hayes & Mahalik, 2000). Additionally, positive correlations between depressive symptoms and gender role conflict are evident in both clinical and non-clinical samples of men (Cournoyer & Mahalik, 1995; Good & Mintz, 1990; Good & Wood, 1995; Sharpe & Heppner, 1991), and in a study specifically addressing depressive symptoms and MGRC in college men, Shepard (2002) found that all masculine gender role conflict factors were significantly associated with men's endorsement of BDI-II depressive symptoms.

Summary of Traditional Masculinity Ideology and Psychological Distress

The constructivist view of gender has highly influenced recent conceptualizations of the influence of masculinity on male behavior. The primary assumption of a constructivist theory of masculinity is that masculinity is a socially constructed system of beliefs that influence men's thoughts, emotions, and behaviors. Unfortunately, traditional masculine role norms are restrictive in nature because they limit many men from experiencing the full range of human emotions and experiences, and consistent with the gender role strain paradigm, some men suffer negative psychological consequences for their adherence to restrictive gender role norms.

The positive relationship between traditional masculinity ideologies and psychological distress is well-established and evident in multiple models of traditional masculinity. This evidence supports the notion that even though men are diagnosed with MDD less frequently than women, men continue to experience considerable pain and suffering. Interestingly, the research on traditional masculinity and depressive symptoms shows that some traditional men actually endorse depressive symptoms on self-report inventories. This data is somewhat inconsistent with the notion that more traditional men tend to minimize their distress levels. The question exists though, whether some traditional men are still unrecognized in these studies which measure depressive symptoms using only DSM-IV symptoms of MDD. By not including symptoms of masculine depression, such as anger, substance abuse, and increased interpersonal conflict, these studies do not assess for a masculine variation of MDD (Addis, 2008). Therefore additional investigation of traditional masculinity ideology, DSM-IV depressive symptoms, and masculine depression symptoms is needed to better understand whether a masculine variant of depression is valid.

Masked Depression Framework

Even though an explicit relationship between traditional masculine role norms and depressive symptoms exists, some have theorized that a masculine variation of MDD is not overtly observable and difficult to assess. According to the masked depression theory of masculine depression, some DSM-IV depressive symptoms such as sadness and depressed mood are masked by other, more masculine-appropriate symptoms such as anger and substance abuse (Cochran & Rabinowitz, 2000; Rabinowitz & Cochran, 2008).

Historically, masked depression was not synonymous with masculine depression; however, the two terms have become increasingly linked in discussion of a masculine variation of MDD. Masked depression was a term originally used in reference to psychiatric patients who covertly masked traditional depressive symptoms with behavioral manifestations that were unassociated with depressive symptomatology (Lesse, 1983). Masked depression in fact referred to a patient's depressive experience that was "most commonly hidden behind hypochondriacal complaints and psychosomatic disorders" (Lesse, 1983, p. 458). Even though it historically referred to somatically-focused psychiatric patients, masked depression is more currently discussed as consisting of other symptoms, such as substance abuse, alcohol abuse, anger, and aggressive behaviors that "mask" men's sadness and depressed mood (Cochran & Rabinowitz, 2003). Masking depressive symptoms allows men to remain consistent with traditional masculine roles that emphasize restriction of negative affect and acting out to manage emotional distress.

In some instances men's masking of their depressive symptoms may be an active process if they are explicitly aware of their depressed mood, but they do not outwardly

express depression due to cultural norms against men expressing vulnerable emotions. Men may also experience depressed mood, but they do not possess the appropriate vocabulary to accurately describe such emotions as sadness and hopelessness (Levant, 1998). Men's avoidance and unawareness of affect surrounding depression is because experiencing vulnerable emotions is traditionally considered feminine (Kilmartin, 2005). Often, men do not receive social reinforcement for experiencing vulnerable emotions, and in fact are often punished by others for their expression of these stereotypically feminine feelings. Instead, many men are socially reinforced for experiencing and expressing anger and rage, and other masculine styles of coping with uncomfortable affect, such as substance use (Lynch & Kilmartin, 1999). The concept that men may not overtly express depressive symptoms, and may actually display other symptoms that conceal their depression is acknowledged by the world's largest mental health research and education agency, the National Institute of Mental Health (NIMH). The NIMH notes in its literature on men and depression that "substance abuse can mask depression making it hard to recognize depression as a separate illness that needs treatment. Instead of acknowledging their feelings, asking for help, or seeking appropriate treatment, men may turn to alcohol or drugs when they become depressed, or become frustrated, discouraged, angry, irritable, and even violently abusive" (NIMH, 2003).

Regardless of the NIMH's reference to masked depression, the framework of masked depression in men is recent to clinical psychology and primarily anecdotal, but a small number of researchers have investigated the construct of a masked variation of MDD in psychiatric inpatient populations. Stoudmire, Kahn, Brown, Linfors, and Houpt, (1985) interviewed 212 inpatients in a series of two interviews. They found that many of

the patients expressed a number of somatic complaints upon admission to the hospital, but a much larger number were diagnosed with MDD after a follow-up diagnostic interview that assessed for certain masked depressive symptoms (e.g. somatization and irritability) as well as DSM depressive symptoms.

Lesse (1983) conducted a 17 year study, of patients of both sexes (71% women and 29% men) with what he noted as masked depression. Lesse noted that patients with masked depression often went undiagnosed for a number of years before their uncharacteristic depressive symptoms were assessed. Most frequently, patients with masked depression reported a number of somatic symptoms. Additionally, because of the delay in making an appropriate diagnosis, the severity of depressive symptoms tended to be much higher because symptoms were unnoticed and subsequently untreated for long periods of time.

Summary of Masked Depression. The idea of masked depression in men has face validity, especially the notion that men's depressive experience may be hidden behind more prototypically masculine externalizing behaviors; however, masked depression in men has limited empirical support (Addis, 2008). More specifically, a major complication exists in attempting to research, measure, and diagnose symptoms that are hidden. An example of this difficulty is given in Rabinowitz & Cochran's (2008) case study of a male patient with masked depression. Even though the patient was engaged in long-term group therapy, his depressive symptoms were unapparent because the patient did not display them to treatment providers; furthermore, the severity of the patient's mood disorder was unknown until he attempted suicide. Consistent though with this case study,

is empirical evidence that men do suffer negative consequences for the display of depressive symptoms. Men report being very sensitive to social stigma of “being depressed,” and are therefore likely to have more pressure than women to hide depressive symptoms (Bryson & Pilon, 1984; King & Buchenwald, 1982).

While difficult and perhaps impossible to measure, the notion of masked depressive symptoms in men is consistent with the concept that masculinity plays a significant role in the symptom presentation of men, and it is consistent with the research that suggests that more traditional men cope with a depressive experience with externalizing behaviors (Mahalik & Rochlen, 2006; Magovcevic & Addis, 2008). Therefore the possibility that aggression, anger, violence, and substance abuse are indicators of depression in men certainly exists, but strong empirical evidence supporting that anger and substance abuse are indicative of a masculine form of depression does not exist. Studies that explicitly investigate this problem could prove helpful in understanding how masculine socialization impacts depressive symptoms in men.

Suicide in Men

Important implications exist for further understanding depressive symptoms in traditional men. One of the most compelling reasons for investigating the existence of masculine depression is the alarmingly high suicide rate in American men. Unfortunately, men commit suicide at a rate of approximately three to five times that of women and are at increased risk for suicide during the entire lifespan (Moscicki, 1997). White men commit a majority of suicides in the United States (Moscicki, 1997), and adolescent males are four times more likely than adolescent females to kill themselves (Vanetta,

1996). The risk for suicide in white males dramatically increases after the age of 55 (Murphy, 1998; Osgood & Theilman, 1995), because older men tend to experience multiple major life stressors such as retirement, death of spouses, and physical ailments.

Major Depressive Disorder is established as a primary risk factor for suicidality in both men and women because mood disorders are the most frequently discovered psychiatric diagnoses of individuals that successfully commit suicide (Moscicki, 1997). The fact that men commit suicide at alarmingly high rates has led some to question if depressive symptoms are accurately diagnosed in men (Cochran & Rabinowitz, 2000; Rabinowitz, 2008), and whether a significant number of depressed men are going through their lives undiagnosed. Additionally, other factors besides depressive symptoms place men at increased for suicide. For instance, a major contributor to the differences between men and women in suicide completion rates is the masculine norm that men must behave aggressively, and they must maintain stoicism in the face of emotional turmoil. Subsequently, stoicism often leaves men feeling very isolated because they will not report vulnerable feelings to others, sometimes not even to their loved ones or therapists (Mahalik & Rochlen, 2006).

Evidence for men's unreported distress is evident in Heifner's (1997) qualitative study of depressed men. In this study, a number of depressed men were interviewed, and a common theme among them involved suicide as a means of taking control. More specifically, men discussed viewing suicide as an active means of controlling an out of control situation (severe depressive symptoms) that they did not understand. Heifner also found that men perceived suicide as a preferable to psychological treatment as a means of managing their depressive symptoms. Therefore, extremely concerning evidence exists

that some traditional men would rather die than experience the shame associated with admitting feeling depressed and helpless.

Additional indicators and risk factors for suicide in men are such externalizing behaviors as alcohol and drug abuse, interpersonal isolation, a history of domestic violence, and conduct problems (Cochran & Rabinowitz, 2000). In fact, a large number of male suicides occur in conjunction with alcohol and substance abuse (Conwell et al., 1996). Therefore an intimate and concerning connection seems to exist between men's depressive symptoms, certain externalizing behaviors, and suicidality. However, a variable not discussed in Hefner's qualitative study and other research on sex differences in suicidality is how men's angry feelings relate to their suicidal thoughts. Because a number of externalizing and acting out behaviors are associated with suicide in men, it could be important to understand the nature of the relationship between men's anger and depressive symptoms, and if anger is an indicator of suicidality in depressed men. Understanding how anger is related to masculine depression could provide important insight into diagnosis and treatment of men that are at risk for self-harm.

Sex and Anger Expression

Sex Differences in Anger Expression in Clinically and Sub-Clinically Depressed Populations. Women are generally encouraged to express a large range of emotions, except anger (Newman, Fuqua, Gray, & Simpson, 2006). Men are generally discouraged from the expression of emotions that disclose vulnerability and sadness, but the expression of anger is socially reinforced and acceptable in men (Sharkin, 1993). Therefore, traditional men tend to be more comfortable expressing anger, although more traditional women are more inclined to suppress anger. Interestingly, empirical results do

not wholly support the stereotype that women suppress anger, and results are unclear regarding sex differences and anger suppression. For example, after assessing the anger expression styles of 230 psychiatric patients with chronic depression, Frank, Carpenter, and Kupfer (1988) found that women actually reported higher levels of expressed anger than men. However, other researchers have found no significant differences in expressed anger between sexes (Greenglass & Julkunun, 1989; Thomas & Williams, 1990).

While some researchers reported no significant mean sex differences in anger expression in depressed samples, further investigation has provided meaningful information about sex, anger expression, and depression. For instance, Newman, Gray, and Fuqua (1999) measured depressive symptoms, state anger, trait anger, and expressed anger in a non-clinical college student population (mean BDI scores for women were 8.79 and men were 7.12). Overall, men and women did not report different levels of anger; however, they reported different types of anger expression. Women's report of suppressing anger, explained much more of the variance in women's endorsement of depressive symptoms. Therefore, Newman, et al.'s results are consistent with the hypothesis that depressed women are more likely to suppress anger, but the study results did not indicate that men who endorse more depressive symptoms were more likely than women to outwardly express anger. Therefore, at least in a non-clinical population of men, the hypothesis of expressed anger as a symptom of masculine depression was unsupported.

In a similar study using a clinical sample (mean BDI score for women was 21.92 and men 18.40), Newman et al. (2006) found a significant relationship between sex and anger in the prediction of depressive symptoms. Participants experienced (state/trait)

anger predicted a high degree of variance in depression for both sexes; however, anger expression was not found to be different between sexes. Newman et al., note that the discrepancy between their 2006 results and their 1999 results could potentially be due to the difference in sample populations. The 1999 sample was a normal college student population, while the 2006 study was with a clinical sample. Therefore, their series of studies suggest that anger may be more of a contributing factor in individuals with more severe depressive symptoms.

Also, their results suggest that no differences exist in anger expression between men and women. The confound that exists in these studies though, is similar to the confound that exists in the studies investigating sex differences in depressive symptom expression. Male participants are grouped into a hypothetically homogenous group, and the overall results of the male group are considered generalizable to all men. Unfortunately grouping men in this manner does not allow for investigation of within group differences amongst men. Therefore, the possibility still exists that within a male group, more traditional men may endorse increased levels of anger expression in conjunction with depressive symptoms.

Overall, Investigation of sex differences in anger expression in depressed participants has revealed mixed results. Levels of expressed anger generally do not differ in the limited number of studies that have investigated differences between men and women. Research of types of anger expression has demonstrated some difference in expression styles with women appearing more likely to internalize anger, and men reporting no characteristic anger expression style. Alternatively, studies of anger

expression within groups of depressed men may prove promising as an area of continued study.

Anger in Depressed Male Samples. A limited number of researchers have investigated anger and depression in men only. Leimkühler, Heller, and Paulus (2006) investigated masculine depression in a group of German adolescents (all 18 years-old) in outpatient treatment for alcohol dependency. Möller Leimkühler, et al. (2006) used the Gotland Scale of Male Depression (Zierau, Bille, Rutz, & Bech, 2002) to assess depressive symptoms, in conjunction with 13 items they believed to be associated with depression in men (aggressiveness, irritability, sleep problems, over-consumption of substances, and tiredness). Leimkühler et al.'s analysis of the scale items that best indicated participants' risk for masculine depression showed that endorsement of *irritability* was the best indicator of those adolescent males at risk for masculine depression.

Additionally, Mauro, Cahn, Vitaliano, Wagner, & Zegree (1988) found that men with a history of committing domestic violence report significantly higher levels of depressive symptoms than men with no history of violence. This group of abusive men also demonstrated significantly higher levels of anger than non-abusers. Roland et al. also mention that the mean depression scores in the domestic violence group was not extremely high though, when compared to general clinical norms for men because "these men often have difficulty expressing feelings of hurt and depression." This statement is noteworthy as it suggests a complex relationship of gender role socialization, anger, aggressive behavior, and depressive symptoms. Of concern is that some traditional men may be more likely to express the anger of masculine depression in violent ways.

Also notable is Kopper and Epperson's (1996) examination of an additional variable besides sex in their investigation of anger expression. As a part of the study, all participants were administered the Bem Sex Role Inventory (Bem, 1974). A significant difference in anger expression was found, based on participants' endorsement of their adherence to masculine or feminine gender roles. Participants (both men and women) that endorsed masculine norms on the BSRI also endorsed significantly higher levels of trait anger and outwardly expressed anger. Masculine participants also reported more difficulty controlling their anger. Kopper and Emmerson's results provide helpful information regarding the relationship between masculinity and anger. Regardless of participant sex, gender, specifically masculinity, was a helpful variable for understanding how individuals express anger.

Therefore, in summary, even though sex differences in anger expression are mostly unsupported in samples of individuals with clinical and sub-clinical levels of depression, this does not mean that anger should be eliminated as a symptom of masculine depression. Other research has shown that irritability is an important component in measuring masculine depression in adolescents. Individuals that endorse more masculine gender role norms are also more likely to express anger outwardly. Additional research that involves investigating the relationship of masculine role norms, anger, and depressive symptoms in men will likely provide clarification whether anger is a valid component of a masculine variation of depression.

Summary of Literature Review

Studies of the diagnostic rates of Major Depressive Disorder (MDD) have consistently demonstrated that women are diagnosed at higher rates than men. Several

recent studies using large datasets have confirmed the current relevancy of this finding. Even though the large difference in diagnostic rates between men and women has been consistent for decades in the United States, some clinicians and researchers have questioned the validity of these findings. They are not questioning that women are diagnosed twice as often as men, but they are questioning the DSM-IV diagnostic system itself, and whether DSM-IV diagnostic criteria for MDD are accurate for a subset of men that experience a masculine variation of MDD. Masculine depression is likely characterized by symptoms that are more consistent with dominant masculine gender role norms.

Attempts to investigate sex differences in depressive symptoms are generally inconsistent and provide a very limited framework for further understanding masculine depression. Other areas of research have proven more fruitful, specifically those areas of research that involve exploring the relationships between adherence to masculine gender role norms and depressive symptoms. Consistent with the gender role strain paradigm, conformity to traditional masculine role norms is related to depressive symptoms. However, use of self-report inventories to assess depressive symptoms on men is problematic because endorsement of depressive symptoms is risky for men. These studies may in fact be limited because more traditional men may have under-reported symptoms of distress.

Because men often experience punishment for display of saddened affect, some men may demonstrate a covert or hidden depressive disorder, called masked depression. The construct of masked depression is not new, as it is known in psychiatry as a depressive disorder manifested in somatic symptoms. Similarly, men may in fact

demonstrate a covert depressive disorder that is hidden behind certain masculine-specific symptoms. One of these symptoms is expressed anger because both boys and men are reinforced for management of uncomfortable affect in an active and aggressive manner, and to suppress emotions of sadness and vulnerability. Therefore men socialized into more traditional gender roles may have a higher likelihood of learning active and aggressive styles of managing their sadness and depressed mood.

Research designs addressing sex differences in anger levels and anger expression in clinically and sub-clinically depressed men and women have not demonstrated that depressed men are angrier and express anger more overtly than depressed women. Nonetheless, studies of sex, gender, and anger expression have shown that more masculine individuals are more likely to outwardly express anger. In one of only a few studies investigating symptoms of masculine depression, irritability was shown to strongly predict the existence of masculine depression in male adolescents. Future studies of anger in depressed samples of men may provide additional information as to whether more traditional men tend to express anger outwardly.

Understanding the symptoms of masculine depression has important implications to clinical practice. Each year, men commit suicide at highly concerning rates. While depression is an important risk factor in understanding suicide risk, the high suicide rate in American men suggests that many men may go undiagnosed because they do not describe classic DSM-IV depressive symptoms. Understanding the nature of depression in traditional men may provide additional information that clinicians can use in the assessment and treatment of depression in traditional men.

CHAPTER THREE

METHODS

Recent empirical investigation and theoretical discussion has illuminated the problematic nature of depression in men, and that some men experience a unique pattern of depressive symptoms (Moller Leimkühler et al., 2006; Mahalik & Rochlen, 2006; Magovcevic & Addis, 2008; Rabinowitz & Cochran, 2008; Zierau, Bille, Rutz, & Bech, 2002). An understanding of the relationship between masculine gender role socialization and certain masculine specific depressive symptoms, such as anger and substance abuse, will help further understanding of men's mental health. Better understanding of masculine depression will allow for more accurate diagnosis and treatment for a significant number of men suffering from non-traditional depressive symptoms. This study involved investigation of the validity of certain symptoms of masculine depression, including trait and expressed anger, in a sample of college men.

Research Design

Predictive Model and Correlations of Variables. A purpose of this research design is to gather data on variables hypothesized as related to depression in men and to investigate the utility of these variables in predicting depressive symptoms. A predictive model of trait anger, outwardly expressed anger, and traditional masculinity ideology was

developed, and these variables were used to predict depressive symptoms in a male subsample of participants. The overall variance explained by the model was calculated. The significance and predictive ability of individual predictor variables (trait anger, outwardly expressed anger, and traditional masculinity ideology) was also analyzed. In addition to the multiple regression model, correlations between individual masculine role norms and depressive symptoms were investigated to further understand the relationship between specific masculine role norms and depressive symptoms in male respondents.

Divergent Validity Test. Divergent validity of the Male Role Norms Inventory-Revised (MRNI-R) would suggest that men endorse stronger adherence to masculine role norms than women. Because men generally adhere more strongly to masculine role norms, it would be expected that scores are significantly different between male and female participants. Divergent validity of the MRNI-R would indicate that the instrument is accurately measuring the construct of traditional masculinity ideology in the college student sample.

Participants

Participants in the sample included the student population of the Metropolitan State College of Denver (MSCD). Participants were both male and female students, age 18 or older, (N = 21,787 students). MSCD is a large, urban, predominantly commuter-based campus. Data was collected at MSCD due to the college's diverse student population in regards to age, ethnicity, and sexual orientation. Although the majority of students are traditional, college-aged students (aged 18-22), MSCD retains a significant number of non-traditional aged students in regards to age, race, and ethnicity.

Instruments

Center for Epidemiological Studies Depression Scale. The Centers for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report measure of depression developed to assess symptoms of depression in the general population. Respondents are given a list of 20 symptoms of depression. The respondent must then indicate the frequency of the symptom during the last week on a scale of 0 (experience this symptom rarely or none of the time) to 3 (most or all of the time). Scores on the CES-D can range from 0 (not at all depressed) to 60 (extreme clinical depression). The CES-D has been shown to be a reliable estimate of depressive symptoms. Radloff (1977) reported high internal consistency reliability estimates of $\alpha = .85$ for the general population and $\alpha = .90$ for psychiatric populations. Additionally, Radloff demonstrated test-retest reliability over a four week period ($r = .51$ to $.67$). Hann, Winter, & Jacobson (1999) demonstrated internal consistency reliability estimates of $\alpha = .85$ and $\alpha = .89$ in a group of cancer patients and physically healthy patients. In the same groups, Hann, Winter, & Jacobson reported test-retest reliability of $r = .57$ and $.51$. The CES-D has been shown to demonstrate construct validity as it has been found to associate with other measures of depression such as the Profile of Mood State Fatigue Scale (Winter, et al., 1999).

State-Trait Anger Expression Inventory-2. The State Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999) is a 57-item self-report instrument that assesses the experience, expression, and control of anger in adolescents and adults (ages 16-63). Spielberger (1988; 1999) developed the STAXI and STAXI-2 as multifaceted measures that assess both the internal experience of anger in addition to the behavioral expression or control of those feelings. The subscales of the STAXI-2 assess state anger

(S-Ang) the intensity of angry feelings at a particular time, and trait anger (T-Ang) which is a personality trait that is characteristic of how often one experiences anger over time. The STAXI-2 also contains a number of anger expression scales: Anger expression-out (AX/Out) is how often a person expresses anger towards someone else or physical objects, anger expression-in (AX/I) describes the frequency with which angry feelings are suppressed instead of outwardly expressed, anger control out (AX/Con-out) is a person's investment and ability in controlling outward expressions of anger, and anger control-in (AX/Con-In) describes a person's ability to monitor angry arousal and calm down arousal as soon as possible (Spielberger, 2004). The STAXI-2 also contains an overall index of anger expression (AX Index). The STAXI-2 was developed by combining previously developed independent scales which measured these constructs of State-Trait Anger (the State-Trait Anger Scale, Spielburger, 1983) and Anger Expression (the Anger Expression Scale, Spielberger, et al., 1985).

The respondent provides information for the State Anger questions regarding whether the item applies at a particular point in time. Trait Anger items ask the respondent to indicate how he/she generally feels. All of the responses are keyed on a four-point likert-type scale (Spielberger, et al., 2004). Item responses to the anger expression questions are formatted the same as the state anger questions, but the directions are to report "how often you generally react or behave in the manner described when you feel angry or furious" (Spielberger, et al., 2004, p. 432). The STAXI therefore, provides helpful information regarding an individual's current emotional state associated with current angry feelings (S-Ang), existence of angry temperament (T-Ang), and general style of expressing the emotion and arousal associated with anger (AX).

The STAXI-2 normative data is based on normative samples of 1644 normal adults and 276 psychiatric inpatients (Speilburger, 1988). The normal sample consisted of managers, clerical workers, and professionals; in addition to a large college student sample. Data from psychiatric patients was gained from several different geographic areas. Examination of the reliability of STAXI-2 has demonstrated that it is reliable, with internal consistency reliability of the state-trait anger scales from ($\alpha = .84-.93$) and the anger expression scales of ($\alpha = .73 - .84$), (Echhardt, Norlander, & Deffenbacher, 2004). While limited data is available on the STAXI-II, its predecessor, the STAXI and its scales have been shown to be valid measures of the experience and expression of anger. Spielberger (2004) reports moderately high correlations of the State Trait Anger scales with other measures of anger and hostility, including the Buss-Durkey Hostility Inventory, and the Hostility and Overt Hostility scales of the Minnesota Multiphasic Personality Inventory (Spielberger, 2004). Deffenbacher, et al. (1996) reported that trait anger significantly correlated with the hostility subscale of the Symptom Checklist-90. Trait anger was more related to other measures of anger than with measures of other psychological problems, such as anxiety, depression, paranoia, and psychoticism (Deffenbacher et al., 1996). Additionally, Deffenbacher et al. reported that Trait Anger was significantly related with problematic styles of anger expression endorsed on the anger expression (AX) scale. For the purposes of this study, only the Trait Anger and Anger Expression Out scales will be used.

Male Role Norms Inventory-Revised. The Male Role Norms Inventory-Revised (MRNI-R; Levant et al., 2007) is a 53-item self report inventory that assesses traditional masculinity ideology. The 53 items are normative statements about how men should or

should not behave. Participants indicate their agreement or disagreement with items on a 7-point Likert-type scale with higher scores indicating greater endorsement of traditional masculinity ideology. The answer responses include, 1 (Strongly Disagree), 2 (Disagree), 3 (Slightly Disagree), 4 (No Opinion), 5 (Slightly Agree), 6 (Agree), 7 (Strongly Agree). The MRNI was initially developed by Levant & Fischer (1998) and consisted of both traditional and non-traditional masculinity ideology scales. The instrument was revised and re-validated and now includes only a traditional masculinity ideology scale and therefore assessment is specifically of traditional masculinity (Levant et al., 2007).

The MRNI-R was originally developed and validated on 170 undergraduate and graduate students that included 38 men, 132 women; 50.6% White students, 27.1% African American Students, and 6.5% Asian American students (Levant et al., 2007). The scale developers formulated a pool of 107 items of statements that were “written as statements about how men should or should not behave” (p. 87). The researchers theoretically derived seven masculine norms: Avoidance of Femininity, Fear and Hatred of Homosexuals, Extreme Self Reliance, Aggression, Dominance, Non-relational attitudes towards sexuality, and Restrictive Emotionality. The MRNI-R was reduced from 107 to 53 items by eliminating items that were not highly and significantly correlated with the item’s corresponding subscale (Levant et al., 2007). The measure includes such items as “A man should always be the boss,” “fathers should teach their sons to mask fear,” and “men should never hold hands or show affection toward another” (pp. 96-99).

The MRNI-R is a consistent and reliable instrument. Internal consistency reliability was measured at $\alpha = .96$ for the total scale in the normative sample (Levant et al., 2007). Internal consistency estimates ranged from $\alpha = .73 - .95$ for the MRNI-R

subscales (Levant et al., 2007). Although test-retest reliability has not been investigated for the MRNI-R, Levant & Heesacker (2001) demonstrated sufficient temporal stability of the MRNI traditional scale ($r = .65$ for men, $r = .72$ for women). Construct validity has been suggested in that the individual subscales correlate more strongly to the MRNI-R total scale than to each other (Levant et al., 2007). The MRNI-R has demonstrated divergent validity in the normative sample in which it was used. Overall, the MRNI-R has been shown to differentiate between men and women, except on the Extreme self Reliance subscale. The ability of the MRNI-R to differentiate between men and women has been shown in several demographic groups, including Asian Americans, African Americans, and European Americans. Therefore, the MRNI-R significantly and consistently differentiates between men and women across different racial and ethnic groups. The MRNI-R has also shown convergent validity with other measures of traditional masculinity ideology (Levant, Rankin, Williams, Hasan, & Smalley, 2010) as the MRNI-R traditional masculinity scale is significantly related to the total score of the Gender Role Conflict Scale ($r = .54$), the Conformity to Masculine Norms Inventory ($r = .60$), the Male Role Attitudes Scale ($r = .60$), and the Normative Male Alexithymia Scale ($r = .51$). The MRNI-R has demonstrated sufficient discriminant validity, as it is not significantly correlated with the Personal Attributes Questionnaire-Masculinity Scale (Spence & Helmreich, 1978), which measures gender-based personality attributes, ($r = .08$), (Levant et al., 2010).

Procedure

An anonymous, internet-based, survey method was used to recruit undergraduate students currently enrolled at the Metropolitan State College of Denver (MSCD). An

internet-based survey method of data collection was chosen because it presented a number of benefits (ease of administration, low cost, high degree of availability to participants) for conducting the data collection process. Internet-based data collection has also become a common and increasingly accepted method of research in the social sciences (Nosen & Woody, 2008). The validity and reliability of the measures in this study were considered intact, since studies comparing results of online and paper-and-pencil surveys have shown that internet surveys retain the psychometric properties of paper surveys (Denscombe, 2006; Lozar Manfreda, & Vehovar, 2002). For this study, all measures were initially obtained from peer-reviewed journals or their publishers in paper format. All instructions and questions from the measures were then transcribed into electronic surveys using a website that specializes in internet survey research (Survey Monkey, www.surveymonkey.com). Special permission was obtained from Psychological Assessment Resources (PAR), to transcribe the STAXI-2 into an electronic format. The entire survey was designed for participants to complete the demographic questionnaire and the four measures in one 20 to 30 minutes-long session.

After electronically formatting the survey, MSCD students were sent a brief explanation of the purpose of the study via their student email account, and they were invited to participate by completing the online survey. The email was explicitly directed to MSCD students, since potential participants are more likely to respond to email invitations that are more specific (Dear MSCD Student) versus general (Dear Participant or Student), (Callagaro, Kruse, Thomas, & Nukulkij, 2009). They received instructions explaining that they would need approximately 20-25 minutes to complete the survey, and that their participation was completely voluntary. If students chose to participate,

they were then directed to an internet hyperlink that forwarded them to a secure website on the internet (www.surveymonkey.com). Participants were then provided with instructions for completion of the survey, as well as contact information for the MSCD counseling center should they experience any distress from participation. They were also informed that their participation was completely voluntary and that they could cease participation at any time.

Upon completion of the entire survey, participants were informed that they could enroll in a drawing for one of eight, \$25 Target gift cards. Incentives were used in this study as a motivator to increase the likelihood of participant completion of the survey because students were informed that they would receive information regarding the incentives after completion of the survey. Evidence supports the use of incentives to increase participation in internet survey research. Recent meta-analyses of survey-based research have shown that incentives are effective in elevating survey response rates (Görizt, 2006). Use of incentives in internet survey designs is not without risk though. Providing incentives to participants in online surveys may increase the number of participants who submit responses repeatedly or disingenuously, on order to receive rewards (Konstan, Rosser, Ross, Stanton, & Edwards, 2005). Some have suggested that use of procedures such as monitoring identifying information of participants' individual internet protocol (IP) addresses or collecting participants' identifying personal information may decrease the likelihood of repeat or disingenuous responding (Reips, 2002; Reips, 2006). However, these methods were not considered useful in this study. Monitoring participant IP addresses was beyond the technological resources and competence of the principal investigator. Collecting personally identifying information

on surveys would eliminate the anonymity of survey participation. Also, because many men are hesitant to disclose distress, they may be extremely hesitant to participate in a study in which their responses could be directly associated with their identity.

Because participants' completion of the online survey was entirely anonymous, participants received instructions to email the principal investigator from their individual email accounts to enroll for the gift card drawings. At no time was there any connection between the survey responses and the emails provided for enrollment for incentives because the entire survey was completed and submitted without any request for identifying data. Emails were sent from participants' personal email accounts after the survey was completed and the answers recorded. Therefore, the two processes were entirely independent of each other.

Fourteen days after the first email requesting participation was sent out, participants were sent another email to remind them of the study and to inform them that data collection would cease in another fourteen days. One month after the students were invited to participate in data collection, the link to the survey was closed and students could no longer participate.

Data Analysis

Research Question One. The first research question involves testing specific masculine depression symptoms. Multiple theorists (Cochran & Rabinowitz, 2000; Lynch & Kilmartin, 1999; Kilmartin, 2005; Real, 1998) have identified anger as an indicator of masculine or masked depression; therefore, two anger constructs (trait and outwardly expressed anger) were included as predictor variables of depressive symptoms. Also, a primary assumption in discussion of masculine depression is that men who conform to

traditional masculinity ideology are at increased risk for masculine depression. So, traditional masculinity ideology was also added as a predictor variable of depressive symptoms in men. Multiple regression was used to analyze this predictive model of certain masculine depressive symptoms in men. The significance of each predictor variable, as well as the significance and variance explained by the entire predictive model were examined. Testing of this predictive model is expected to provide understanding regarding the validity of anger as a symptom of masculine depression.

Research Question Two. Minimal information exists regarding the relationships between certain masculine role norms and depressive symptoms (Addis, 2008). At this time, two studies have indicated positive correlations between depressive symptoms and specific traditional masculine norms. Mahalik et al. (2003) demonstrated a significant, moderate correlation between depressive symptoms and the individual masculine norm of self-reliance. Mahalik & Rochlen (2006) found that traditional men are more likely to engage in maladaptive coping skills such as substance abuse to manage depression. Therefore, additional investigation of specific masculine role norms and depressive symptoms will likely extend understanding of certain men that are at increased risk for MDD. Statistical analysis of this question involved calculating correlation coefficients between each masculine role norm of the MRNI-R and the CES-D total score.

Research Question Three. The entire sample included both men and women, but the primary analyses were performed on men only. A sub-sample of men was used for most analyses because men are expected to conform more strongly to traditional masculine role norms. The expectation that men and women will endorse different levels of traditional masculinity ideology is consistent with past research (Levant, 2007;

Mahalik et al., 2003). A finding in this study that shows male participants endorsing higher levels of traditional masculinity ideology, will support the use of men only for analyses. This question will be statistically analyzed by testing for a significant sex difference on mean scores of traditional masculinity ideology using an independent samples t test.

Summary

This chapter outlined the current study's methodology, including descriptions of the survey instruments, the procedures used for data collection, and the statistical procures used for data analysis. To examine a predictive model of masculine depression symptoms, as well as the relationship between masculine role norms and depressive symptoms, an anonymous internet survey request was sent to students at the Metropolitan State College of Denver. Participants agreed to complete five measures, including a demographic questionnaire, the Center for Epidemiological Studies Depression Scale, Trait Anger Inventory, Anger Expression Inventory, and the Male Role Norms Scale – Revised. A male sub-sample, which included all male participants, was used for the primary data analyses. This male sub-sample is expected to adhere more strongly to traditional masculine role norms than female respondents. The sample demographics and results of statistical analyses will be further discussed in Chapter Four.

CHAPTER 4

STATISTICAL ANALYSES AND RESULTS

This chapter outlines the results of this study. The first section includes a discussion of missing data in the survey and methods used to address missing data. The second session describes the specific demographics of the sample, as well as the demographics of the male sub-sample used for a majority of the data analysis. The results of statistical analyses are then reported by each individual research question.

Participant Demographics

The target sample for this study was an undergraduate student population attending a large, urban, college in the Western United States. The college was chosen due to its notable recruitment of a diverse range of students. The gender composition of the institution is 54.9% female and 45.1% male, and is generally consistent to demographics of students attending universities nationwide (US Census, 2007). The participants had a mean age of 28.87 years-old ($SD = 8.85$), and reported an average yearly income of \$34, 591 ($SD = 37, 104$). Outlier analysis indicated that one value for yearly income was outside of the range of three standard deviations from the mean. This value was removed prior to the calculating the sample mean. Although 1030 participants returned surveys, a notable percentage of the surveys were returned incomplete ($n = 578$),

and the range of missing data per respondent was quite large (1-99% of survey questions missing).

Missing Data

Further review of individual participant's responses with missing information revealed that a large proportion (78%) of respondents with missing information completed at least 76% of the entire survey. Matsuo, McIntyre, Tomziak, & Katz (2005) state that no specific guidelines exist for identifying what amount of missing data is acceptable for online research methods. Similarly, Tomaziac, et al. note that inherent problems are involved in web-based survey research due to issues such as multiple submissions, non-serious responses, incomplete responses, and dropouts. Additionally, some of the inherent problems associated with online survey research do not occur with mail, telephone, or in-person survey administration (e.g. such problems as computers "freezing," ease of multiple submissions, and computer malfunction). However, Matsuo & McEntyre also discuss that online survey research provides advantages to other survey methods, including such advantages as an extremely quick speed of response, low cost for distribution of questionnaires, and ease of data compilation. Applicable to this study, Matsuo et al. note that due to the familiarity with and ease of access to the internet for college students, they are likely a population better suited for online survey research.

Leong & Austin (2005) provide some guidance for managing missing online survey data, in that they suggest the researcher must first define if any missing data is acceptable in the dataset, and if so, the researcher must set a value for what amount of missing data is acceptable. The researcher must set this value because "there is no universally accepted guideline for how much missing data is too much" (p. 244).

For this study, due to the significant number of cases ($n = 578$) containing some amount of missing data, eliminating all cases with missing data was not considered a viable option. Subsequently, each case was individually analyzed to calculate the percentage of total questions missing. A majority of cases that included some missing data still included 75% or more of completed survey questionnaire responses; therefore, a cutoff of 25% missing was used for this study (i.e., if a respondent left more than 25% of the survey incomplete their entire survey was removed from the dataset). Therefore, removal of cases that included greater than 25% of missing data resulted in a final sample ($n = 908$) used for data analysis. The remaining missing data remained in the sample and was appropriately marked so the missing information would not be included in statistical analyses.

Additionally, for comparative purposes, all statistical analyses were also performed on the entire sample dataset ($n = 1030$), without the removal of any missing cases. This was considered important, so that readers may compare the results of analyses with and without missing data removed. Overall, the results of analyses on the data without removal of missing cases were extremely similar to the results without missing data. See Appendix 8 for tables including all statistical analyses without missing data removed. For the purposes of this study, the dataset in which cases with large amounts of missing data were removed was considered a more valid representation of participant responses and therefore used for the statistical analyses of research questions. Limitations of this rationale will be further discussed in the Chapter Five *Limitations* section.

Sample Demographics

The final sample of participants (the terms “participants” and “students” will be used interchangeably throughout this chapter) was primarily, White (78.1%), female (69.9%), single (51.1%), and heterosexual (87.4%). A large percentage of the sample included students that identified as being in their junior or senior year (63.2%). See Table 4 for more detailed information regarding the demographics of the entire sample.

Table 4
Total Sample Demographics (n= 908)

Characteristic	Number of Participants	Percentage of Sample
Sex		
Male	267	29.4
Female	635	69.9
Transgender	3	.10
Other	3	.10
Ethnicity		
White	709	78.1
Black/African American	36	3.9
Latino	83	9.1
Native American	11	1.2
Asian American	16	1.7
Pacific Islander	2	.20
Other	49	5.4
Sexual Orientation		
Heterosexual	794	87.4
Gay	42	4.6
Lesbian	14	1.5
Bisexual	48	5.3
Other	10	1.0
College Level		
Freshman	101	11.1
Sophomore	173	19.1
Junior	285	31.4
Senior	289	31.8
Graduate	53	5.8
Other	3	.10
Relationship Status		
Single	464	51.1

Married	184	20.2
Remarried	12	1.3
Divorced	63	6.9
Living with Significant Other	156	17.2
Common Law Marriage	20	2.2
Widowed	4	.4
Other	1	.1

Data for both men and women participants was collected to allow for divergent validity analyses between male and female students. Because a majority of the research questions and analyses are in reference to men, the male participants were separated from the entire sample and included in a male only sub-sample for additional data analysis.

Male Sub-sample

The male sub-sample consisted of 267 male participants. As with the original sample, the sub-sample of men was primarily White (78.3%), single (65.2%), and heterosexual (80.1%). The men also consisted of a majority of junior and senior level students (57.7%). Although a majority of men represented the dominant US culture, it is notable that a significant number of gay and Latino men were represented, See Table 5. Although the study research questions primarily address the relationship between “dominant” (White/heterosexual) masculine role norms and depressive symptoms, that does not mean that minority groups do not adhere to any traditional masculine role norms (Fragoso & Kashubeck, 2000). Therefore, the responses of the gay and Latino men were still considered meaningful for data analysis and remained in the male subsample.

The sub-sample also reported significantly higher levels of depressive symptoms than the original CES-D sample [$t = 17.88$ (2799), $p < .01$] In fact, the average ($M =$

18.86) male student participant endorsed a level of symptoms that was beyond the CES-D cutoff score of 16 (Radloff, 1977). Additionally, the male sub-sample adhered less strongly to masculine gender role norms [$t = 14.34$ (606), $p < .01$] than Levant et al.'s (2010) large scale study of the psychometric properties of the MRNI-R.

Table 5
Demographics of Male Sub-sample (n= 267)

Characteristic	Number of Participants	Percentage of Male Sub-Sample
Ethnicity		
White	209	78.3
Black/African American	10	3.7
Latino	28	10.4
Native American	2	1.0
Asian American	7	2.6
Pacific Islander	0	0
Other	11	4.1
Sexual Orientation		
Heterosexual	214	80.1
Gay	38	14.2
Bisexual	11	4.1
Other	3	1.1
College Level		
Freshman	33	12.4
Sophomore	61	22.8
Junior	71	26.6
Senior	83	31.1
Graduate	14	5.2
Other	3	1.1
Relationship Status		
Single	174	65.2
Married	34	12.7
Remarried	1	.3
Divorced	12	4.5
Living with Significant Other	39	14.6
Common Law Marriage	4	1.5
Widowed	1	.3
Other	1	.3

Preparation for Data Analysis

All statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS; SPSS Inc., 2008), Version 16.0. Given that the first analysis consisted of testing a model of multiple regression, the assumptions for multiple regression were tested prior to analysis. The assumptions of homoscedasticity, independence, and multicollinearity were all met. The assumption of normality of residuals was not met; however, Allison (1999) suggests that this assumption could be strongly deemphasized in instances provided that the sample size was moderately large, especially in samples consisting of more than 200 cases.

Statistical Analysis of Research Question 1

The first research question addressed the following: “Is endorsement of traditional masculine gender role norms, trait anger, and outwardly expressed anger a significant predictor of depressive symptoms in men?” This question was analyzed by developing a multiple regression model using the male sub-sample of students. Descriptive statistics for the four variables of the regression model are included in Table 6.

Table 6
Means, Standard Deviations, and Ranges for Depression, Trait Anger, Outwardly Expressed Anger, and Traditional Masculinity Ideology

Variable	M	SD	Range	Skewness
CES-D	18.86	9.37	44	.83
Trait Anger	17.61	5.15	40	.08
Anger Out	14.29	3.76	32	-.13
MRNI-R	2.60	1.12	6.51	.08
Total				

CES-D (Center for Epidemiological Studies Depression Scale); MRNI-R (Male Role Norms Inventory – Revised)

First, a bivariate correlational analysis was performed, and several significant correlations were found between the predictor variables. The strength of all correlations in this study was determined using the following criteria: weak ($r = .10-.29$), moderate ($r = .30-.49$), and high ($r = .50-1.0$), (Cohen, 1988). Trait Anger was shown to have a strong, positive association with Outwardly Expressed Anger [$r(267) = .56, p < .01$]. Trait anger was also weakly associated with Traditional Masculinity Ideology [$r(267) = .20, p < .01$]. Outwardly expressed anger was weakly related to Traditional Masculinity Ideology [$r(267) = .16, p < .05$].

In the multiple regression model, the independent variables (i.e., predictive variables) used in the model were Trait Anger, Outwardly Expressed Anger, and Traditional Masculinity Ideology (See Table 7). These variables were operationalized respectively using: Total Trait Anger Scale Scores from the STAXI-2, Total Anger Out scores from the STAXI-2, and the Total Masculinity score from the MRNI-R. The dependent variable (i.e., outcome variable) was depressive symptoms, as measured by the total score on the CES-D. The regression model fit was significant, $F(3, 263) = 11.60, p < .01$, and was shown to be predictive ($R = .342$) of depressive symptoms. Additionally, the model demonstrated that 12% of male participant's depressive symptoms were explained by trait anger, outwardly expressed anger, and traditional masculinity ideology ($R^2 = .12$). Therefore, although the model was shown to significantly fit the actual data, the low

percentage of variance explained indicates that the proposed model does not demonstrate a high degree of fitness with the actual data.

Of the three variables included in the model, only Trait Anger was a significant predictor of depressive symptoms ($\beta = .32, p < .01$). Because both outwardly expressed anger and traditional masculinity ideology did not significantly predict depressive symptoms, these results were inconsistent with the hypothesis that all three independent variables would significantly predict CES-D depressive symptoms. Although outwardly expressed anger was not a significant predictor of depressive symptoms in the male subsample, outwardly expressed anger was significantly correlated with men's endorsement of depressive symptoms (Table 8). Therefore a weak relationship between expressed anger and depressive symptoms is apparent in this sample.

Table 7

Summary of Multiple Regression Model for Variables Predicting Depression

Variable	<i>B</i>	<i>SE B</i>	β
Trait Anger	.58	.12	.32*
Outwardly Expressed Anger	.12	.18	.05
Traditional Masculinity Ideology	-.50	.49	-.06

R = .34, R² = .12, SE = 8.85

*p < .01

Table 8

Correlation Matrix for Depression, Trait anger, Anger Out, and Masculine Norms

Measure	1	2	3	4
1. CES-D	1			
2. T-Anger	.34**	1		
3. Anger Out	.22**	.56**	1	
4. MRNI-R	.01	.20**	.16*	1

Note. CES-D represents the total score on the Center for Epidemiological Studies Depression Scale. T-Anger is the total trait anger scale score on the STAXI-2. Anger Out

is the total outwardly expressed anger score on the STAXI-2. MRNI-R is the total score on the Male Role Norms Inventory-Revised.

* $p < .05$, ** $p < .001$

Statistical Analyses of Research Question 2

The second research question included: “Which masculine role norms (avoidance of femininity, fear and hatred of homosexuals, self-reliance, aggression, achievement/status, non-relational attitudes toward sexuality, and restrictive emotionality) are significantly related to depressive symptoms in male participants? Are these relationships consistent with previous research on conformity to masculine role norms and depression in men?”

To investigate this question, bivariate correlations were calculated between depressive symptoms, measured by the Total CES-D score and each subscale of the MRNI-R. The subscales of the MRNI-R include the following: avoidance of femininity, fear and hatred of homosexuals, extreme self-reliance, aggression, dominance, non-relational attitudes towards sexuality, and restrictive emotionality. Means and standard deviations for the CES-D and the seven MRNI-R subscales are provided in Table 9.

Table 9

Means, Standard Deviations, and Ranges for MRNI-R Factors and Depression

Measure	M	SD
1. CES-D	18.6	9.37
2. AVFEM	2.82	1.36
3. HOMO	2.00	1.19
4. SELF	3.92	1.26
5. AGGR	3.70	1.31
6. DOM	2.18	1.10
7. ATTSEX	2.00	.90
8. RESTEM	2.43	1.19

Note. CES-D represents the Total Score on the Center for Epidemiological Studies Depression Scale. The seven subscales of the Male Role Norm Inventory-Revised are Avoidance of Femininity (AVFEM), Fear and Hatred of Homosexuals (HOMO), Extreme Self Reliance (SELF), Aggression (AGGR), Dominance (DOM), Non-Relational Attitudes Towards Sexuality (ATTSEX), and Restrictive Emotionality (RESTEM).

The correlational analysis of relationships between traditional male role norms and depressive symptoms did not demonstrate any significant relationships between MRNI-R subscales and CES-D depressive symptoms (See Table 10). The results did not confirm or reject the hypotheses because analyses were primarily exploratory in nature, and used to investigate possible relationships between male role norms and depressive symptoms. However, the results were unexpected, as previous studies have demonstrated relationships between adherence to masculine role norms and depressive symptomatology.

Table 10
Correlation Coefficients for Depression and MRNI-R Subscales

Variables	1	2	3	4	5	6	7	8
1. CES-D	1							
2. AVFEM	-.06	1						
3. HOMO	-.04	.72**	1					
4. SELF	.01	.57**	.41**	1				
5. AGGR	-.01	.69**	.47**	.77**	1			
6. DOM	-.02	.70**	.80**	.52**	.60**	1		
7. ATTSEX	.05	.58**	.48**	.46**	.53**	.61**	1	
8. RESTEM	.04	.69**	.59**	.55**	.69**	.68**	.58**	1

Note. CES-D represents the Total Score on the Center for Epidemiological Studies Depression Scale. The seven subscales of the Male Role Norm Inventory-Revised are Avoidance of Femininity (AVFEM), Fear and Hatred of Homosexuals (HOMO), Extreme Self Reliance (SELF), Aggression (AGGR), Dominance (DOM), Non-Relational Attitudes Towards Sexuality (ATTSEX), and Restrictive Emotionality (RESTEM)

** $p < .001$

Statistical Analyses of Research Question 3

The third and final research question was, “For purposes of divergent validity, do sex differences exist on overall scores of the MRNI-R?” The purpose of this research question was to investigate for differences in endorsed traditional masculinity ideology between male and female participants. The research question was investigated by performing an independent sample t-test on Total MRNI-R scores between male and female participants. Men were shown to endorse significantly higher levels of traditional masculinity ideology than women [$t(900) = 5.97, p < .01$].

Summary of Findings

According to the results of this study, male participants reported below average levels of adherence to traditional masculine role norms and significantly high levels of depressive symptoms. They also reported adherence to masculinity ideology at a greater level than female participants. Because men endorsed significantly stronger adherence to masculine norms, the divergent validity of the MRNI-R was considered to be maintained in this study. Overall, the proposed model of trait anger, outwardly expressed anger, and masculinity ideology was shown to moderately predict depressive symptoms in college men. However, the variance explained by the model was small at 12 percent. Of the three individual predictors of depressive symptoms, trait anger was the only statistically significant predictor of depression in the male sub-sample. Investigation of the relationships between depression and the various components of masculinity ideology demonstrated that no significant relationships existed between adherence to specific

masculine role norms and depressive symptoms. The implications of these findings are discussed in the next chapter.

CHAPTER FIVE

Discussion and Research Implications

Because large-scale epidemiological studies of the incidence and prevalence rates of MDD have generally shown men as much less likely to experience a major depressive episode, a significant amount of research is focused on further understanding this large difference between sexes. Research investigating sex differences, i.e. differences between men and women, in depressive disorder symptom clusters has provided some but limited insight into the possible impact of masculine gender role socialization on depressive disorder symptom development in men. An underlying and potentially problematic rationale of investigating sex differences in depressive symptoms is that if men do not significantly differ from women in overall MDD symptom presentation, then it is likely that no masculine variation of MDD actually exists. A methodological issue also exists in most sex differences in depression research, as generally men are placed in one group, then compared to one group of women. However, American men are in fact not a homogenous group and represent a variety of experiences, attitudes, cultures, and values.

Furthermore, while many men do experience and express depression similarly to women and DSM-IV criteria, that similarity does not mean that some groups of men may

experience depression differently. Unfortunately, placing all American men in a unitary category of *men* limits the ability of researchers to study nuances in symptom presentation amongst men and investigate the possibility of a masculine variation of MDD. Addis (2008) metaphorically describes the problem of continuing to only investigate sex differences in MDD symptom presentation in clinical research:

“No serious scholar of literature would argue, for example, that the best way to understand Portuguese or South African Literature is by comparing them to American literature. Instead, each body of work would be explored in its own cultural context, and comparative analyses, if conducted, might emerge at a later point. If, in contrast, one were to proceed initially with an analysis of difference, each body of work would quickly be seen only in how it differs from the other; as a result, its own internal workings would remain obscured” (p.157).

In the context of MDD sex differences research, Addis suggests that investigating sex differences in symptom presentation limits the ability of psychologists to understand depression in men, and he proposes that we instead attempt to understand the nature of depression within groups of men. Therefore, consistent with Addis’ recommendations, a primary aim of this study was not to compare symptoms between sexes but to further investigate a potential masculine variation of depressive symptoms in a group of men. An additional purpose of this study was to move the discussion of masculine depression from the theoretical to the empirical. While empirical study of masculine depression has recently gained more momentum, Magovcevic and Addis (2008) note that the majority of evidence for a masculine variation of depression is theoretical and anecdotal versus empirical. The specific contributions of this study to existing empirical literature on

masculine depression will be further discussed throughout this chapter, as well as the limitations of this study, and directions for future research.

Discussion of the Results and Implications for Research

Research Question One. The first research question involved testing the fitness of a regression model of certain masculine depression symptoms with a sub-sample of 267 college men. The masculine-specific subset of symptoms investigated was trait anger and outwardly expressed anger. Because adherence to masculine role norms (e.g. self-reliance, aggression, emotional restriction) is also considered a salient aspect of a masculine variation of depression, it was hypothesized that stronger adherence to masculine role norms would also predict endorsement of depressive symptoms.

Overall, the predictive model demonstrated that male participant adherence to masculine norms, trait anger, and outwardly expressed anger moderately predicted depressive symptoms. Therefore, the hypothesis of the predictive value of anger and traditional masculinity for depression was validated. The finding that 12% of the variance in depressive symptoms was explained by trait anger, outwardly expressed anger, and adherence to masculine norms provided empirical support for anger and masculinity as important components of depression in men.

Additionally, investigation of the predictive value of each individual variable provided mixed support for the hypothesis that the individual variables of traditional masculinity ideology, trait anger, and outwardly expressed anger would each predict depressive symptoms in men. Trait anger was the only individual variable that significantly predicted depressive symptoms in the sub-sample of college men, and because trait anger was shown to moderately predict depressive symptoms, the model of

anger as a component of masculine depression was partially confirmed. Additional discussion is warranted though, regarding possible reasons why the other variables (outwardly expressed anger and traditional masculinity ideology) in the model were not predictive of depression.

Interestingly, outwardly expressed anger was not shown to predict depressive symptoms in this relatively depressed male sub-sample, even though outwardly expressed anger and depression were significantly correlated; therefore, further discussion and empirical clarification of expressed anger as a component of masculine depression is considered necessary. A review of previous literature investigating the relationship between gender roles and anger expression provides some, but limited, clarification on this issue. For example, while Kopper & Epperson (1996) found that endorsement of masculine *traits* was related to an aggressive, acting out type of anger, a similar result was not found in this study in the context of studying masculine depressive symptoms. However, some conceptual differences exist between the constructs of masculine traits and masculinity ideology (Pleck, 1995). Masculine traits are considered masculine personality attributes that are inherent within the individual, while masculinity ideology is composed of masculine role norms that are socially-constructed and that define how men should and should not think, feel, and behave (Smiler, 2004).

Because the view of masculinity as consisting of inherent traits is conceptually distinct from the view of masculinity as an ideology, empirical differences between measures of masculine traits and masculinity ideology are evident in men's studies literature. For instance, in Levant et al.'s (2010) recent validity study of the MRNI-R, the MRNI-R (a measure of masculinity ideology) was statistically unrelated to the PAQ (a

measure of masculine personality traits). Therefore, simply because past research has shown associations between expressed anger and masculine *traits*, may not mean that expressed anger is also associated with masculinity *ideology*.

Also, it is questionable whether this study's result that trait anger predicted depression is consistent with Möller Leimkuhler, Heller, & Paulus' (2006) finding that *irritability* was the best indicator of masculine depression in adolescent males.

Investigation of the measure used in their study provides some clarification. Möller Leimkuhler et al. used the Gotland Scale of Male Depression (GSMD; Rutz, von Knorring, Pihlgren, Rihmer & Walinder, 1995) to study masculine depression. A review of the GSMD indicates that respondents are asked to rate the applicability of symptoms on a four-point, Likert-type scale from "Not at All" to "Extremely So." The GSMD contains the following items that address anger and irritability: (Item -2) "More aggressive, outward-reacting, difficulties keeping self control", and (Item 5) "More irritable, restless, and frustrated" (Zierau, Bille, Rutz, and Bech, 2002, p. 269). Möller Leimkuhler, et al. identify item 2 as addressing *aggressiveness* and item 5 as addressing *irritability*. When compared with the terms used in this study, item 2 appears to address outward anger expression, while item 5 addresses an internal experience of anger and frustration. Based on the face validity of these two GSMD items, one can reasonably conclude that their definition of irritability is more consistent with the definition of trait anger used in this study.

Although Möller Leimkuhler, Heller, & Paulus' definition of irritability appears synonymous with the definition of trait anger, confusion and inconsistency in the existing literature makes clarification between irritability and anger difficult. Is irritability a

distinct construct from anger or is it conceptually the same as the internal experience of anger? Masculine depression and anger-related literature provides limited clarification of this conceptual question. Some men's issues scholars discuss the anger and irritability associated with masculine depression as encompassed in a grouping of *externalizing* symptoms or ways of *acting out* (Cochran & Rabinowitz, 2003; Magovcevic and Addis, 2008; Kilmartin, 2005). Externalizing symptoms are described as irritability, anger, bad temper, social withdrawal, substance abuse, and aggression, and while these constructs appear to identify a common externalizing symptom cluster, little discussion exists regarding why or how men may demonstrate irritability, versus anger, bad temper, or aggression. Studies that specifically address anger also reflect some lack of clarity in these constructs. For instance the terms of anger, irritability, and frustration are often used interchangeably without discussion of potential differences in terminology (Deffenbacher et al., 1996). Eckhardt, Norlander, and Deffenbacher (2004) further note that problems exist in the use of related constructs such as anger and hostility.

This problem of interchangeably used constructs may also present as a problem in the empirical investigation of masculine depression. While many researchers and theorists discuss anger, aggression, and irritability as symptoms or indicators of masculine depression symptoms, it would be helpful to investigate the individual components of this symptom cluster. For example, a more stable experience of anger was predictive of and related to depressive symptoms in this study; however, aggressive, outward expression of anger was not indicative of depression. Therefore, further empirical clarification of the nature of each externalizing symptom may help to clarify whether anger, irritability, hostility, and aggression are all components of an

externalizing symptom cluster, or whether some of these constructs are more or less related to depression in men.

Magovcevik & Addis (2008) have begun this process through their development and factor analysis of the Masculine Depression Scale (MDS). They found that of men who recently experienced a stressful life event, those that adhered more strongly to stereotypically masculine norms were more likely to endorse externalizing symptoms such as experiencing anger, rage, acting out aggressively, substance abuse, and social withdrawal. Further investigation of the validity of this scale and the individual components of the scale's externalizing symptoms, will likely help to further refine the conceptualization of anger and externalizing behaviors as components of masculine depression.

Although some confusion regarding the definitions of anger-related constructs is evident in some literature, trait anger was measured in this study for a specific reason. The rationale for the use of trait anger as a predictor of depression was developed because trait anger is experienced over an extended course of time and throughout variable situations. Due to the longer-term duration of a depressive disorder, which is at least two weeks according to DSM-IV-TR criteria, trait anger was considered to more accurately tap into an experience of anger that would likely occur in conjunction with the extended depressive symptoms of MDD. Also, due to the Trait Anger Scale's well-established validity and reliability, it was considered to more accurately measure experienced anger than recently developed measures of masculine depression (MDS and GSMD). While promising, these measures only contain two to four items to assess the complex constructs of experienced and expressed anger. Outwardly expressed anger was

also measured in this study because active expression of anger is considered a more masculine style of managing distress (Cochran & Rabinowitz, 2000; Kilmartin, 2005; Lynch & Kilmartin, 1999), yet this result was not confirmed in this study. This unexpected result may be related to the demographics of the sample used in this study. In an investigation of masculine depressive symptoms in both clinical and non-clinical samples of men, Magovcevic & Addis found a moderate correlation ($r = .33$) between externalizing symptoms and CES-D measured depression. While significant, this correlation is modest; therefore, the use of only non-clinical participants in this study, who are expected to endorse lower levels of expressed anger and depression, may have resulted in this unexpected result between expressed anger and depressive symptoms.

In summary, it appears that in this set of college men anger was a component of depressive symptoms, yet this anger was unlikely to be outwardly expressed. This result is quite noteworthy because it is inconsistent with much of the theoretical discussion that masculine depression consists of angry acting out behaviors, while this finding also provides *empirical* evidence that trait anger is likely a significant component of depressive symptoms in some men.

Another hypothesized predictor in the proposed model of masculine depressive symptoms was disconfirmed since traditional masculinity ideology did not significantly predict men's endorsement of depressive symptoms. Past research on men and psychological distress has consistently demonstrated that stronger adherence to dominant, American masculine gender role norms is related to psychological distress, including depression. Furthermore, this result has been demonstrated in samples of college men (Good et al., 1995; Hayes & Mahalik, 1995; Mahalik & Cournoyer, 2000; Shepard,

2002). A possible explanation exists for this result. College students, as a group, may adhere less strongly to dominant cultural gender role norms. Although the men in the male sub-sample reported adherence to some masculine norms, it is possible that overall they represent less traditional attitudes about masculinity.

Research Question Two. Consistent with the results that traditional masculinity ideology did not predict depressive symptoms was the finding that no individual traditional masculine role norms were correlated with depressive symptoms. This result was also unexpected, given that some evidence indicates that relationships exist between depression and certain masculine role norms (Good & Wood, 1995; Mahalik et al., 2003). Although Mahalik et al. reported a positive correlation between the masculine norm of extreme self-reliance and depressive symptoms, their results were actually much more similar to this study. In their proposed 11-factor model of traditional masculinity ideology, extreme self reliance was the *only* norm that was positively correlated with depressive symptoms.

On the surface, the results of this study in addition to Mahalik et al.'s study suggest that adherence to traditional masculine role norms is not highly related to depressive symptoms. However, these results are potentially confounded, which compromises their validity. Investigating the relationship between traditional masculinity ideology and depression using self-report measures involves an assumption that more traditional men will report symptoms of depressed mood, saddened affect, and anhedonia. The potential flaw with this assumption is that more traditionally masculine men tend to have difficulty identifying and/or disclosing depressive symptoms because they are

contrary to dominant, American norms of masculinity. Addis (2008) also articulately summarizes this flaw in his discussion of masculine depression by identifying that:

“It is clear that traditional masculine norms proscribe expression of emotional distress, such as symptoms of depression. Thus, many men may underreport symptoms in a simple self-report context” (p.160).

Therefore, this study’s results of no relationship between traditional masculine norms and depressive symptoms should be viewed tentatively until this phenomenon can be measured with methods that involve use of other means of assessing depressive symptoms in men, such as structured clinical interviews that would allow interviewers to probe and ask follow-up questions. Because of the limitations associated with conducting masculine depression research with self-report surveys, Chuick, et al. (2009) have recently shown that qualitative research will likely be a highly informative method for further investigation of depression in men. In their study, in-depth, face to face interviews were conducted with a small group of male participants regarding their experience of typical/atypical symptoms, attitudes towards help-seeking, and treatment experiences. This area of research will likely be critical for further understanding the nature of depression in traditional men.

Research Question Three. The final research question was to investigate the divergent validity of the newly revised measure of traditional masculinity ideology, the MRNI-R. The measure is divergent if it can discriminate based on its construct of interest. Therefore, it is divergent if it can discriminate based on the construct of masculinity ideology, and it was expected that the sub-sample of men would endorse significantly higher levels of masculinity ideology than women. In theory, if the men and

women did not differ on their overall endorsement of masculinity ideology, one would question the utility of separating the men into a sub-sample to further investigate masculine depression. The MRNI-R can be considered an instrument with intact divergent validity because men scored significantly higher than women on the MRNI-R.

Limitations of the Study

While this study addressed several important issues in the masculine depression literature, some limitations of this study deserve discussion. The survey was sent to the entire undergraduate population of a large urban university. Although the overall sample size was relatively large ($n = 908$), this sample reflected a small return rate. In fact a majority of students decided to not complete the survey. The small return rate may be a result of several factors. The survey was administered towards the end of the spring semester, and due to the many requirements of students at the end of the academic term, they may not have replied because of their busy schedules. Additionally, the sample consisted of a majority of women. While an acceptable number of male students ($n = 267$) responded, some male students may have avoided participating in the survey due to the area of investigation, i.e. investigation of depression and masculinity. It has been well documented that men are hesitant to seek psychological help (Addis & Mahalik, 2003), and therefore the survey may have activated their negative schemas surrounding psychological problems, healthcare, and help-seeking.

An additional concern with this study is the issue of missing data. At this time, many guidelines surrounding missing data and self-report measures are related to survey measures completed by participants while face-to-face with the investigator or via mail. Participants might be more likely to complete questions when face to face with the

principal researcher due to certain demand characteristics such as the participants' awareness that they are being observed (Heiman, 2002). However, the time and resources needed to conduct this type of research are often considerable, and electronic survey administration and data collection are viable, affordable alternatives. Unfortunately there are still concerns related to electronic survey administration, and a primary concern is that subjects may cease participation during the course of the survey, and the investigator has little to no insight as to why an individual participant terminated participation. In retrospect, several alternative approaches may have decreased the amount of missing data.

Instead of sending the survey to the entire student body, it may have been more effective to send a survey to a smaller, random sample of students, and to specifically inform those students that they have been *selected* from the student body. This statement may increase the experience of responsibility for the individual participant and increase the likelihood that they will fully respond. Additionally, it could have been stated more clearly and strongly that it would be most helpful for the investigator if the students complete the *entire* survey. Explicitly noting that participants are expected to complete the entire survey may increase the likelihood that the entire survey will be completed. A final factor that may have impacted the amount of missing data may be the content of the survey. While expected to induce minimal amounts of distress, it is possible that some students may have reacted negatively to questions assessing depression, or several of the questions on the MRNI-R that assess negative attitudes towards women and gay men. Because students were not debriefed, no feedback was received about this issue. In a future online survey, it could be helpful to provide participants with an open-ended

question in which they could record any concerns or feedback for the investigator.

Overall, due to the low response rate and the issues surrounding missing data, the results of this study should not be considered generalizable beyond the sample used for this study.

Another concern surrounds the content measured in this study. For more conceptual simplicity and to maintain brevity of the survey the decision was made to measure three primary constructs: masculinity, depressive symptoms, and anger. In retrospect though, it may have been informative to measure an additional aspect theorized as part of masculine depression. Alcohol and substance abuse have consistently been theorized as components of masculine depression (Cochran & Rabinowitz, 2000; Kilmartin, 2005; Magovcevic & Addis, 2008; Rabinowitz & Cochran, 2008; Real, 1997), as men are likely to use substances to manage the negative affect associated with depression. A brief measure of alcohol and/or drug use may have been useful to provide a more comprehensive study investigating masculine depression.

Recommendations for Future Research

Throughout the previous discussion of the research questions, several recommendations were made regarding how the findings relate to current research as well as how they may impact future research. Those recommendations are summarized here, and several additional recommendations are offered as well. Support was found for trait anger as a likely component of depression in men. However, this study does not provide much detail regarding how men manage or cope with the experience of anger. Theorists of masculine depression emphasize that masculine norms support a coping style that includes aggressive acting out of anger, but the male students in this study did not

endorse aggressive acting out of their experienced anger. This result that is contradictory to theory may be associated with college student participants being less socially conforming and therefore less likely to engage in stereotypical masculine gender roles. Regardless, additional research surrounding if depressed men actually do or do not outwardly express their anger will provide clarity regarding the role that anger expression may or may not play in masculine depression.

Also, as previously mentioned, some confusion exists about the definition of the construct of anger. Further study and clarification of these externalizing symptoms associated with masculine depression will provide insight into the role that these symptoms play with men. This study supported the experience of anger in male students; however, in this sample traditional masculinity ideology was not predictive of depressive symptoms. Therefore different results may be found in a group that adheres more strongly to traditional masculine norms. Also, investigation of similar but different constructs than trait anger could be helpful. Potential constructs of investigation could be hostility, aggression, and irritability.

It is still relatively unexplored as to which traditional masculine norms relate to depressive symptoms (Addis, 2008; Mahalik & Rochlen, 2005). Some evidence for the relationship between masculine role norms has been found through the large body of research addressing the relationship between masculine gender role conflict and psychological distress (Good & Wood, 1995; Good et al., 1996; Hayes & Mahalik, 2000; Mahalik & Cournoyer, 2000). While Pleck (1995) includes masculine gender role conflict (as measured by the gender role conflict scale) as included in the categorization of measures of traditional masculinity ideology, masculine gender role conflict is at the

same time conceptually distinct from traditional masculinity ideology. Masculine gender role conflict is a psychological state of distress that results from men's adherence to restrictive, traditional masculine norms (O'Neil, Good, & Holmes, 1995), and the Gender Role Conflict Scale (O'Neil et al., 1986) measures the distress associated with adherence to those restrictive masculine norms. However, measures such as the Male Role Norms Inventory-Revised (Levant et al., 2006) and the Conformity to Masculine Norms Inventory (Mahalik et al., 2003) assess men's adherence and non-adherence to specific masculine norms, not the distress associated with adherence. Therefore, use of measures that assess men's adherence to masculine norms will provide additional information as to which norms are more and less related to depressive symptoms.

Consistent with Addis' (2008) recommendations stated at the beginning of this chapter, future research should also focus on understanding the relationship between symptoms of masculine depression in various types of men, as understanding within-group variability of men will likely provide much rich data regarding symptoms in various groups of men, versus continuing to only describe men by how they differ from women. An example of this type of research would be investigation of trait anger and anger expression in groups of men that stereotypically tend to adhere more strongly to traditional masculinity ideology, such as military veterans, non-students, men living in more rural areas, and older men.

The final issue related to future research is the use of self-report measures as a research tool for the investigation of masculine depression. Because men, especially more traditional men, may under-report symptoms on self-report inventories, the use of structured diagnostic interviews may be more informative. Within the interview, the

investigators may be able to establish rapport with participants and reassure them about the confidentiality of their interviews. Also, investigators would be able to ask clarifying questions and explore personal examples that identify certain symptoms.

In spite of their limitations, it is anticipated that researchers can use these findings to better conceptualize depression in men and specifically symptoms of a masculine variation of major depressive disorder. Hopefully this study also provokes ideas of additional research, including additional methods, constructs, and populations of men that will further our understanding of masculine depression. By furthering this area of research, the eventual hope is to more accurately diagnose major depressive disorder in men, decrease the dramatically high rate of suicide in men, and to more effectively provide men with the assistance and resources that they need.

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APPENDIX A

Email Sent to Potential Participants

Dear Metro State Student,

You have been invited to participate in a doctoral dissertation study that involves investigation of the relationships between depression, anger, and masculinity. Participation in this study includes completion of a questionnaire that takes approximately 20-25 minutes to complete. After completion of the questionnaire, you will be given instructions on how to enroll for a drawing of eight \$25 target gift cards. Participation in this study is completely voluntary, please complete by April 24th. If you have any questions please feel free to contact the principal investigator, Matthew Genuchi, at mgenuchi@du.edu. You may also contact the chair of the dissertation committee, Dr. Jesse Valdez, at jevaldez@du.edu or the Chair of the Metropolitan State College of Denver IRB, Dr. Jeff Forrest.

IF YOU WISH TO PARTICIPATE IN THE STUDY, PLEASE CLICK THE LINK:
http://www.surveymonkey.com/s.aspx?sm=D_2fK9ergxto_2fjFFSV_2fM4oOA_3d_3d

Thank you very much for your time.

Sincerely,

Matthew Genuchi, M.A.
Doctoral Candidate
Morgridge College of Education
University of Denver
2450 S. Vine Street
Denver, CO 80208

APPENDIX B

Project Information Sheet

You are invited to participate in a doctoral dissertation study investigating the relationship between several types of anger, depression, and beliefs regarding how traditional men should think and behave. This research will provide helpful information regarding how gender influences depression. Please read each set of directions carefully and answer questions to the best of your ability. The possibility exists that some of the questions and/or statements in the survey may cause you to feel uncomfortable or upset. Your participation is completely voluntary and you may cease your participation at any time.

The following questionnaire will take you approximately 20-25 minutes to complete. Should you feel any distress after completing this survey, especially feelings of depression, you are recommended to contact the Metropolitan State College of Denver Counseling Center at (303) 556-3132.

Your responses will be completely anonymous. That means that no one will be able to connect your identity with the information you give. Please do not write your name anywhere on the questionnaire. If you have any concerns or complaints about how you were treated during the interview, please contact Professor Jeff Forest, Chair of the MSCD Human Subjects Committee at (303) 556-4380 or forestj@mscd.edu. You may also contact the chairperson of the dissertation committee for this study, Jesse N. Valdez, Ph.D. at jevaldez@du.edu or (303) 871-2482. Information regarding the guidelines for the protection of the rights of human subjects that are in operation for this study may be found at <http://www.mscd.edu/~hsreview/Pages/thepolicy.htm>.

The University of Denver is the primary institution for this research project, and any concerns or problems should also be directed to Susan Sadler, Chair, Institutional Review Board for the Protection of Human Subjects, at 303-871-3454, or Sylk Sotto-Santiago, Office of Research and Sponsored Programs at 303-871-4052.

If you wish to be contacted regarding the results of this study, please send an email to the principal investigator, Matthew C. Genuchi, M.A. at mgenuchi@du.edu.

By continuing this survey you acknowledge that you have read the above information, are of age 18 or older, and have consented to participate in this study.

APPENDIX C

Demographic Questionnaire

1. Age: _____
2. College or University Educational Level: (Check the highest level completed)
____ Freshman ____ Sophomore ____ Junior ____ Senior
____ Master's Degree ____ Ph.D. ____ Other
3. Present Relationship Status (Check all that apply):
____ Married ____ Single (Never Married) ____ Divorced ____ Remarried
____ Living with Significant Other ____ Common Law Marriage ____ Widowed
4. Ethnicity: ____ White ____ Black/African American ____ Hispanic/Latino/Mexican
American ____ Asian American ____ Native American ____ Pacific Islander ____
Other
5. Sexual Orientation: ____ Heterosexual ____ Lesbian ____ Gay ____ Bisexual
____ Other
6. Current Household Income _____

APPENDIX D

Center for Epidemiological Studies Depression Scale

Below is a list of some of the ways you may have felt or acted during the past week. Please indicate how often you felt or acted the way each statement suggests by using the following scale:

- “1” Rarely or none of the time (Less than 1 day)
- “2” Some or a little of the time (1-2 days)
- “3” Occasionally or a moderate amount of the time (3-4 days)
- “4” Most or all of the time (5-7 days)

- | | | |
|-----|---|-------|
| 1. | I was bothered by things that usually don't bother me. | _____ |
| 2. | I did not feel like eating; my appetite was poor. | _____ |
| 3. | I felt that I could not shake off the blues even with help from my family or friends. | _____ |
| 4. | I felt that I was just as good as other people. | _____ |
| 5. | I had trouble keeping my mind on what I was doing. | _____ |
| 6. | I felt depressed. | _____ |
| 7. | I felt that everything I did was an effort. | _____ |
| 8. | I felt hopeful about the future. | _____ |
| 9. | I thought my life had been a failure. | _____ |
| 10. | I felt fearful. | _____ |
| 11. | My sleep was restless. | _____ |
| 12. | I was happy. | _____ |
| 13. | I talked less than usual. | _____ |
| 14. | I felt lonely | _____ |
| 15. | People were unfriendly. | _____ |
| 16. | I enjoyed life. | _____ |
| 17. | I had crying spells. | _____ |
| 18. | I felt sad. | _____ |
| 19. | I felt that people disliked me. | _____ |
| 20. | I could not get “going” | _____ |

APPENDIX E

Trait Anger Scale

Read each of the following statements that people have used to describe themselves, and then include the number in the answer blank to indicate how you ***generally*** feel or react. There are no right or wrong answers. Do not spend too much time on any one statement. Mark the answer that *best* describes how you *generally* feel or react.

Fill in "1" for *Almost Never*

Fill in "2" for *Sometimes*

Fill in "3" for *Often*

Fill in "4" for *Almost Always*

How I Generally Feel

1. _____ I am quick tempered.
2. _____ I have a fiery temper.
3. _____ I am a hotheaded person.
4. _____ I get angry when I'm slowed down by others' mistakes.
5. _____ I feel annoyed when I am not given recognition for doing good work.
6. _____ I fly off of the handle.
7. _____ When I get mad, I say nasty things.
8. _____ It makes me furious when I am criticized in front of others.
9. _____ When I get frustrated, I feel like hitting someone.
- 10 _____ I feel infuriated when I do a good job and get a poor evaluation.

APPENDIX F

Anger Expression Scale

Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people use to describe their reactions when they feel angry or furious. Read each statement and then include the number in the answer blank to indicate how often you generally react or behave in the manner described when you are feeling angry or furious. There are no right or wrong answers. Do not spend too much time on any one statement.

Fill in "1" for *Almost Never*

Fill in "2" for *Sometimes*

Fill in "3" for *Often*

Fill in "4" for *Almost Always*

How I Generally React or Behave When Angry or Furious

11. _____ I control my temper.
12. _____ I express my anger.
13. _____ I take a deep breath and relax.
14. _____ I keep things in.
15. _____ I am patient with others.
16. _____ I someone annoys me, I'm apt to tell him or her how I feel.
17. _____ I try to calm myself as soon as possible.
18. _____ I pout or sulk.
19. _____ I control my urge to express angry feelings.
20. _____ I lose my temper.
21. _____ I try to simmer down.
22. _____ I withdraw from people.
23. _____ I keep my cool.
24. _____ I make sarcastic remarks from others.
25. _____ I try to soothe my anger feelings.
26. _____ I boil inside but don't show it.
27. _____ I control my behavior.
28. _____ I do things like slam doors.
29. _____ I endeavor to become calm again.
30. _____ I tend to harbor grudges that I don't tell anyone about.
31. _____ I can stop myself from losing my temper.
32. _____ I argue with others.
33. _____ I reduce my anger as soon as possible.
34. _____ I am secretly quite critical of others.
35. _____ I try to be tolerant and understanding.

- 36. _____ I strike out at whatever infuriates me.
- 37. _____ I do something relaxing to calm myself down.
- 38. _____ I am angrier than I am willing to admit.
- 39. _____ I control my angry feelings.
- 40. _____ I say nasty things.
- 41. _____ I try to relax.
- 42. _____ I'm irritated a great deal more than people are aware of.

APPENDIX G

Male Role Norms Inventory - Revised

Please complete the questionnaire by circling the number which indicates your level of agreement or disagreement with each statement. Give only one answer for each statement.

Strongly Disagree 1	Disagree 2	Slightly Disagree 3	No Opinion 4	Slightly Agree 5	Agree 6	Strongly Agree 7
1. Homosexuals should never marry.						
1	2	3	4	5	6	7
2. The President of the US should always be a man.						
1	2	3	4	5	6	7
3. Men should be the leader in any group.						
1	2	3	4	5	6	7
4. A man should be able to perform his job even if he is physically ill or hurt.						
1	2	3	4	5	6	7
5. Men should not talk with a lisp because this is a sign of being gay.						
1	2	3	4	5	6	7
6. Men should not wear make-up, cover-up or bronzer.						
1	2	3	4	5	6	7
7. Men should watch football games instead of soap operas.						
1	2	3	4	5	6	7
8. All homosexual bars should be closed down.						
1	2	3	4	5	6	7
9. Men should not be interested in talk shows such as Oprah.						
1	2	3	4	5	6	7
10. Men should excel at contact sports.						
1	2	3	4	5	6	7
11. Boys should play with action figures not dolls.						
1	2	3	4	5	6	7
12. Men should not borrow money from friends or family members.						
1	2	3	4	5	6	7
13. Men should have home improvement skills.						
1	2	3	4	5	6	7
14. Men should be able to fix most things around the house.						
1	2	3	4	5	6	7
15. A man should prefer watching action movies to reading romantic novels.						
1	2	3	4	5	6	7
16. Men should always like to have sex.						
1	2	3	4	5	6	7
17. Homosexuals should not be allowed to serve in the military.						

	1	2	3	4	5	6	7
18. Men should never compliment or flirt with another male.							
	1	2	3	4	5	6	7
19. Boys should prefer to play with trucks rather than dolls.							
	1	2	3	4	5	6	7
20. A man should not turn down sex.							
	1	2	3	4	5	6	7
21. A man should always be the boss.							
	1	2	3	4	5	6	7
22. A man should provide the discipline in the family.							
	1	2	3	4	5	6	7
23. Men should never hold hands or show affection toward another.							
	1	2	3	4	5	6	7
24. It is ok for a man to use any and all means to “convince” a woman to have sex.							
	1	2	3	4	5	6	7
25. Homosexuals should never kiss in public.							
	1	2	3	4	5	6	7
26. A man should avoid holding his wife’s purse at all times.							
	1	2	3	4	5	6	7
27. A man must be able to make his own way in the world.							
	1	2	3	4	5	6	7
28. Men should always take the initiative when it comes to sex.							
	1	2	3	4	5	6	7
29. A man should never count on someone else to get the job done.							
	1	2	3	4	5	6	7
30. Boys should not throw baseballs like girls.							
	1	2	3	4	5	6	7
31. A man should not react when other people cry.							
	1	2	3	4	5	6	7
32. A man should not continue a friendship with another man if he finds out that the other man is homosexual.							
	1	2	3	4	5	6	7
33. Being a little down in the dumps is not a good reason for a man to act depressed.							
	1	2	3	4	5	6	7
34. If another man flirts with the women accompanying a man, this is a serious provocation and the man should respond with aggression.							
	1	2	3	4	5	6	7
35. Boys should be encouraged to find a means of demonstrating physical prowess.							
	1	2	3	4	5	6	7
36. A man should know how to repair his car if it should break down.							
	1	2	3	4	5	6	7
37. Homosexuals should be barred from the teaching profession.							
	1	2	3	4	5	6	7
38. A man should never admit when others hurt his feelings.							

	1	2	3	4	5	6	7
39.	Men should get up to investigate if there is a strange noise in the house at night.						
	1	2	3	4	5	6	7
40.	A man shouldn't bother with sex unless he can achieve an orgasm.						
	1	2	3	4	5	6	7
41.	Men should be detached in emotionally charged situations.						
	1	2	3	4	5	6	7
42.	It is important for a man to take risks, even if he might get hurt.						
	1	2	3	4	5	6	7
43.	A man should always be ready for sex.						
	1	2	3	4	5	6	7
44.	A man should always be the major provider in his family.						
	1	2	3	4	5	6	7
45.	When the going gets tough, men should get tough.						
	1	2	3	4	5	6	7
46.	I might find it a little silly or embarrassing if a male friend of mine cried over a sad love story.						
	1	2	3	4	5	6	7
47.	Fathers should teach their sons to mask fear.						
	1	2	3	4	5	6	7
48.	I think a young man should try to be physically tough, even if he's not big.						
	1	2	3	4	5	6	7
49.	In a group, it is up to the men to get things organized and moving ahead.						
	1	2	3	4	5	6	7
50.	One should not be able to tell how a man is feeling by looking at his face.						
	1	2	3	4	5	6	7
51.	Men should make the final decision involving money.						
	1	2	3	4	5	6	7
52.	It is disappointing to learn that a famous athlete is gay.						
	1	2	3	4	5	6	7
53.	Men should not be too quick to tell others that they care about them.						
	1	2	3	4	5	6	7

APPENDIX H

Results of Statistical Analyses Using Dataset Without Removal of Missing Cases

Table 11

Total Sample Demographics without missing removed (n= 1030)

Characteristic	Number of Participants	Percentage of Sample
Sex		
Male	298	28.9
Female	726	70.5
Transgender	3	.30
Other	3	.30
Ethnicity		
White	800	77.7
Black/African American	41	4.0
Latino	98	9.5
Native American	11	1.1
Asian American	18	1.7
Pacific Islander	2	.20
Other	58	5.6
Sexual Orientation		
Heterosexual	899	87.3
Gay	44	4.3
Lesbian	18	1.7
Bisexual	53	5.1
Other	11	1.1
College Level		
Freshman	117	11.4
Sophomore	195	18.9
Junior	324	31.5
Senior	331	32.1
Graduate	58	5.6
Other	1	.10
Relationship Status		
Single (never married)	527	51.4
Married	207	20.2
Remarried	12	1.2
Divorced	72	7.0
Living with Significant	183	17.8
Other		
Common Law Marriage	22	2.1
Widowed	3	.30
Other	1	.10

Table 12

Demographics of Male Sub-sample Without Missing Removed (n= 298)

Characteristic	Number of Participants	Percentage of Male Sub-Sample
Ethnicity		
White	233	78.2
Black/African American	11	3.7
Latino	32	10.7
Native American	2	.70
Asian American	8	2.7
Pacific Islander	0	0
Other	12	4.0
Sexual Orientation		
Heterosexual	240	80.1
Gay	41	14.2
Bisexual	14	4.1
Other	2	1.1
College Level		
Freshman	37	12.4
Sophomore	68	22.8
Junior	81	27.2
Senior	94	31.5
Graduate	15	5.0
Other	1	.30
Relationship Status		
Single	194	65.2
Married	39	12.7
Remarried	1	.3
Divorced	13	4.5
Living with Significant	45	14.6
Other		
Common Law Marriage	4	1.5
Widowed	1	.3
Other	1	.3

Table 13

Means, Standard Deviations, and Ranges for Depression, Trait Anger, Outwardly Expressed Anger, and Traditional Masculinity Ideology

Variable	M	SD	Range
CES-D	17.60	9.93	48
Trait Anger	16.40	6.60	40
Anger Out	13.32	5.08	32
MRNI-R	2.42	1.27	6.51
Total			

Table 14

Summary of Multiple Regression Model for Variables Predicting Depression

Variable	<i>B</i>	<i>SE B</i>	β
Trait Anger	.62	.12	.41*
Outwardly Expressed Anger	.27	.16	.14
Traditional Masculinity Ideology	-.10	.45	-.01

R = .52, R² = .27, SE = 8.55

*p < .01

Table 15

Means, Standard Deviations, and Ranges for MRNI-R Factors and Depression for Male Subsample Without Missing Removed

Measure	M	SD
1. CES-D	17.6	9.93
2. AVFEM	2.81	1.36
3. HOMO	2.00	1.19
4. SELF	3.91	1.26
5. AGGR	3.70	1.30
6. DOM	2.17	1.10
7. ATTSEX	2.00	.90
8. RESTEM	2.42	1.19

Note. CES-D represents the Total Score on the Center for Epidemiological Studies Depression Scale. The seven subscales of the Male Role Norm Inventory-Revised are Avoidance of Femininity (AVFEM), Fear and Hatred of Homosexuals (HOMO), Extreme Self Reliance (SELF), Aggression (AGGR), Dominance (DOM), Non-Relational Attitudes Towards Sexuality (ATTSEX), and Restrictive Emotionality (RESTEM).

Table 16

Correlation Coefficients for Depression and MRNI-R Subscales

Variables	1	2	3	4	5	6	7	8
1. CES-D	1							
2. AVFEM	-.05	1						
3. HOMO	-.04	.72**	1					
4. SELF	.02	.58**	.42**	1				
5. AGGR	-.01	.69**	.47**	.77**	1			
6. DOM	-.02	.70**	.80**	.52**	.60**	1		
7. ATTSEX	.05	.60**	.48**	.47**	.53**	.61**	1	
8. RESTEM	.04	.69**	.60**	.55**	.69**	.68**	.59**	1

Note. CES-D represents the Total Score on the Center for Epidemiological Studies Depression Scale. The seven subscales of the Male Role Norm Inventory-Revised are Avoidance of Femininity (AVFEM), Fear and Hatred of Homosexuals (HOMO), Extreme Self Reliance (SELF), Aggression (AGGR), Dominance (DOM), Non-Relational Attitudes Towards Sexuality (ATTSEX), and Restrictive Emotionality (RESTEM)

** $p < .001$